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3021

30 series sub-miniature DIL relay *(11.4 x 20 x 10.1mm)*

- 2-pole changeover contacts low level switching capability 2A
- Sensitive DC coil - 200mW
- Wash tight: RT III

type	switch current	description	contact	pin pitch (mm)	coil voltage	price
302270120010	2A	sealed DIL PCB relay	2 ch/over	5.08	12Vdc	**42.00**
302270240010	2A	sealed DIL PCB relay	2 ch/over	5.08	24Vdc	**42.00**
302270480010	2A	sealed DIL PCB relay	2 ch/over	5.08	48Vdc	**51.00**

3221...

32 series sub-miniature low profile relay *(10.7 x 20 x 10mm)*

- 1-pole changeover contacts low level switching capability 6A
- Sensitive DC coil - 200mW
- Wash tight: RT III

322170122000	6A	low profile PCB relay	1 ch/over	7.62	12Vdc	**33.00**
322170242000	6A	low profile PCB relay	1 ch/over	7.62	24Vdc	**33.00**
322170482000	6A	low profile PCB relay	1 ch/over	7.62	48Vdc	**36.00**

3451...

3481...

34 series ultra-slim relay *(5mm)* *(15 x 28 x 5mm)*

- 1-pole changeover contact 6A
- Sensitive DC coil - 170mW
- 8mm clearance/creepage distance
- Ultra-slim (5mm) package
- 6kV (1.2/50 µs) insulation, coil-contacts

Electromechanical relays

345170050010	6A	ultra-slim PCB relay	1 ch/over	5	5Vdc	**66.00**
345170060010	6A	ultra-slim PCB relay	1 ch/over	5	6Vdc	**66.00**
345170120010	6A	ultra-slim PCB relay	1 ch/over	5	12Vdc	**49.00**
345170240010	6A	ultra-slim PCB relay	1 ch/over	5	24Vdc	**49.00**
345170480010	6A	ultra-slim PCB relay	1 ch/over	5	48Vdc	**66.00**
345170600010	6A	ultra-slim PCB relay	1 ch/over	5	60Vdc	**77.00**

9311

Solid state relays

- 1-NO single circuit switching 2A
- Silent, high speed switching with long electrical life
- Sensitive DC input circuit
- 2.500 V insulation, input-output

				operating	switching	
348170129024	2A	slim solid state relay	1 NO	8 - 17Vdc	1.5 - 24Vdc	**192.00**
348170249024	2A	slim solid state relay	1 NO	16 - 30Vdc	1.5 - 24Vdc	**192.00**
348170248240	2A	slim solid state relay	1 NO	16 - 30Vdc	12 - 240Vac	**204.00**

9311	PCB-mount socket with hinged retain/release clip for 34 series relays	**21.00**

3611...

36 series miniature "sugar cube" relay *(15.5 x 19 x 16mm)*

- 1-pole changeover contact 10A
- DC coil - 360mW
- Wash tight: RTIII

361190124001	10A	"sugar cube" PCB relay	1 ch/over	–	12Vdc	**21.00**
361190244001	10A	"sugar cube" PCB relay	1 ch/over	–	24Vdc	**21.00**

4131...

41 series low-profile PCB relay *(15.7 x 29 x 12.5mm)*

- 1 and 2 pole changeover contact 8/12/16A
- DC coil - 400mW
- 8mm 6kV (1.2/50 µs) insulation, coil-contacts
- Flux proof: RT II *(standard)*

Electromechanical relays

413190120010	12A	low-profile PCB relay	1 ch/over	3.5	12Vdc	**37.00**
413190240010	12A	low-profile PCB relay	1 ch/over	3.5	24Vdc	**37.00**
416190120010	16A	low-profile PCB relay	1 ch/over	5	12Vdc	**39.00**
416190240010	16A	low-profile PCB relay	1 ch/over	5	24Vdc	**39.00**
415290120010	8A	low-profile PCB relay	2 ch/over	5	12Vdc	**44.00**
415290240010	8A	low-profile PCB relay	2 ch/over	5	24Vdc	**44.00**

4181...

Solid state relays

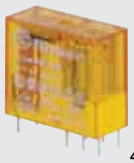
- 1-NO single circuit switching 3/5A
- Silent, high speed switching with long electrical life
- Sensitive DC input circuit
- 2.500 V insulation, input-output

				operating	switching	
418170249024	5A	solid state PCB relay	1 NO	14 - 32Vdc	1.5 - 24Vdc	**206.00**
418170248240	3A	solid state PCB relay	1 NO	15 - 32Vdc	12 - 240Vac	**197.00**

Above prices do not include VAT. E&OE

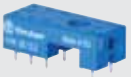
4051...

4061...


4052...

9505SPA

ER902220


95152SMA

ES50CNER

4351

9523SNA

40 series miniature PCB relays *(25 x 29 x 12.4mm)*

- 8mm, 6kV (1.2/50µs) isolation, coil-contacts
- Flux proof: RT II (standard)

type	current	description	contact	pin pitch	coil voltage	price
405180120000	10A	miniature PCB relay	1 ch/over	5mm	12Vac	**43.00**
405180240000	10A	miniature PCB relay	1 ch/over	5mm	24Vac	**43.00**
405180480000	10A	miniature PCB relay	1 ch/over	5mm	48Vac	**49.00**
405181100000	10A	miniature PCB relay	1 ch/over	5mm	110Vac	**55.00**
405182400000	10A	miniature PCB relay	1 ch/over	5mm	240Vac	**70.00**
405190120000	10A	miniature PCB relay	1 ch/over	5mm	12Vdc	**33.00**
405190240000	10A	miniature PCB relay	1 ch/over	5mm	24Vdc	**33.00**
405190360000	10A	miniature PCB relay	1 ch/over	5mm	36Vdc	**44.00**
405190480000	10A	miniature PCB relay	1 ch/over	5mm	48Vdc	**44.00**
405191100000	10A	miniature PCB relay	1 ch/over	5mm	110Vdc	**50.00**
406180120000	16A	miniature PCB relay	1 ch/over	5mm	12Vac	**45.00**
406180240000	16A	miniature PCB relay	1 ch/over	5mm	24Vac	**45.00**
406180480000	16A	miniature PCB relay	1 ch/over	5mm	48Vac	**50.00**
406181100000	16A	miniature PCB relay	1 ch/over	5mm	110Vac	**57.00**
406182400000	16A	miniature PCB relay	1 ch/over	5mm	240Vac	**71.00**
406190120000	16A	miniature PCB relay	1 ch/over	5mm	12Vdc	**34.00**
406190240000	16A	miniature PCB relay	1 ch/over	5mm	24Vdc	**34.00**
406190360000	16A	miniature PCB relay	1 ch/over	5mm	36Vdc	**45.00**
406190480000	16A	miniature PCB relay	1 ch/over	5mm	48Vdc	**45.00**
406191100000	16A	miniature PCB relay	1 ch/over	5mm	110Vdc	**52.00**
405280120000	8A	miniature PCB relay	2 ch/over	5mm	12Vac	**50.00**
405280240000	8A	miniature PCB relay	2 ch/over	5mm	24Vac	**50.00**
405280480000	8A	miniature PCB relay	2 ch/over	5mm	48Vac	**56.00**
405281100000	8A	miniature PCB relay	2 ch/over	5mm	110Vac	**63.00**
405282400000	8A	miniature PCB relay	2 ch/over	5mm	240Vac	**78.00**
405290120000	8A	miniature PCB relay	2 ch/over	5mm	12Vdc	**40.00**
405290240000	8A	miniature PCB relay	2 ch/over	5mm	24Vdc	**40.00**
405290360000	8A	miniature PCB relay	2 ch/over	5mm	36Vdc	**51.00**
405290480000	8A	miniature PCB relay	2 ch/over	5mm	48Vdc	**51.00**
405291100000	8A	miniature PCB relay	2 ch/over	5mm	110Vdc	**58.00**

Other voltages available on request

Other configurations: *replace 5th digit with following:*

6	Bistable *(single coil)* version	**+45.00**
7	DC sensitive coil version	**+4.80**

44 series miniature PCB relays *(25 x 29 x 12.4mm)*

- Cadmium free contacts
- 8mm, 6kV (1.2/50µs) isolation, coil-contacts

446290120000	10A	miniature PCB relay	2 ch/over	5mm	12Vdc	**58.00**
446290240000	10A	miniature PCB relay	2 ch/over	5mm	24Vdc	**58.00**

Sockets and accessories for 40/44 series relays

		for relay	
95152SMA	PCB mount socket for relay *(blue)*	ser 40/44	**14.20**
9505SPA*	surface/DIN mount socket *(screw terminal)* with retaining clip	ser 40/44	**49.00**
09518	8 way jumper link for sockets	9505SPA	**31.00**
06072	sheet of marking tags (72 tags) for retain clip of sockets	9050SPA	**134.00**
095004	spare marking tag for sockets	9050SPA	**1.60**

* *Accepts plug-in LED, diode, timing modules (plugs directly into socket) see pg* **J-8**

ES50CNER	Ersce surface/DIN mount socket *(screw terminal)*	ser 40/44	**43.00**
ER902220	spring securing/release clip for socket	ES50	**5.50**
ER902230	clip-on marking plate *(top or bottom)* for socket (10pcs)	ES50	**30.00**

43 series low-profile slimline PCB relays *(15.4 x 28.6 x 10.2mm)*

- 1-pole changeover contact 10A
- Very high coil-contact isolation 10mm, 6kV (1.2/50µs)
- Flux proof: RT II *(standard)*

434170122000	16A	low profile slim PCB relay	1 ch/over	3.2mm	12Vdc	**32.00**
434170242000	16A	low profile slim PCB relay	1 ch/over	3.2mm	24Vdc	**32.00**

9523SNA	PCB-mount socket 43 series relay (with retaining clip)	**13.80**

46618...

46619...

46528...

46529...

9702SPA

9711

5514...

46 series miniature industrial plug-in relays *(32.8 x 29 x 12.4mm)*

- Plug-in or direct connection via robust faston terminals
- AC and DC coil voltages
- 8mm, 6kV (1.2/50µs) isolation, coil-contacts
- Lockable test/override button
- Manual override facility and mechanical flag indication of relay status

type	current	description	contact	coil voltage	price
466180120040	16A	miniature plug-in relay	1 ch/over	12Vac	**65.00**
466180240040	16A	miniature plug-in relay	1 ch/over	24Vac	**65.00**
466180480040	16A	miniature plug-in relay	1 ch/over	48Vac	**71.00**
466181100040	16A	miniature plug-in relay	1 ch/over	110Vac	**75.00**
466182300040	16A	miniature plug-in relay	1 ch/over	230Vac	**91.00**
466190120040	16A	miniature plug-in relay	1 ch/over	12Vdc	**53.00**
466190240040	16A	miniature plug-in relay	1 ch/over	24Vdc	**53.00**
466190480040	16A	miniature plug-in relay	1 ch/over	48Vdc	**64.00**
466191100040	16A	miniature plug-in relay	1 ch/over	110Vdc	**70.00**
465280120040	8A	miniature plug-in relay	2 ch/over	12Vac	**74.00**
465280240040	8A	miniature plug-in relay	2 ch/over	24Vac	**74.00**
465280480040	8A	miniature plug-in relay	2 ch/over	48Vac	**80.00**
465281100040	8A	miniature plug-in relay	2 ch/over	110Vac	**85.00**
465282300040	8A	miniature plug-in relay	2 ch/over	230Vac	**103.00**
465290120040	8A	miniature plug-in relay	2 ch/over	12Vdc	**61.00**
465290240040	8A	miniature plug-in relay	2 ch/over	24Vdc	**61.00**
465290480040	8A	miniature plug-in relay	2 ch/over	48Vdc	**73.00**
465291100040	8A	miniature plug-in relay	2 ch/over	110Vdc	**80.00**

Other configurations: *replace last two digits with following:*

54	internal LED indicator for AC relays	**+15.00**
74	internal LED indicator for DC relays	**+15.00**

Sockets and accessories for 46 series relays			for relay	
9701SPA*	surface/DIN mount socket *(screw terminal)* with retaining clip		4661	**55.00**
9702SPA*	surface/DIN mount socket *(screw terminal)* with retaining clip		4652	**59.00**
9711	PCB mount socket for relay	for relay	4661	**30.00**
9712	PCB mount socket for relay	for relay	4652	**37.00**
04607	DIN rail mountable support bracket for	for relay	4661/52	**22.00**
06072	sheet of marking tags *(72 tags)* for relay	for relay	4661/52	**134.00**
095004	spare marking tag for sockets	for sockets	9701/02	**1.60**
09518	8 way jumper link for sockets	for sockets	9701/02	**31.00**

* *Accepts plug-in LED, diode, timing modules (plugs directly into socket)* *see pg **J-8***

55 series miniature industrial pcb mount relays *(32.8 x 29 x 12.4mm)*

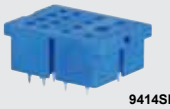
PCB mount termination *2 and 4 pole changeover*

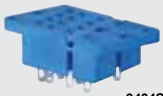
551280120000	10A	miniature PCB mount relay	2 ch/over	12Vac	**77.00**
551280240000	10A	miniature PCB mount relay	2 ch/over	24Vac	**77.00**
551281100000	10A	miniature PCB mount relay	2 ch/over	110Vac	**90.00**
551282400000	10A	miniature PCB mount relay	2 ch/over	230Vac	**85.00**
551290120000	10A	miniature PCB mount relay	2 ch/over	12Vdc	**77.00**
551290240000	10A	miniature PCB mount relay	2 ch/over	24Vdc	**77.00**
551290480000	10A	miniature PCB mount relay	2 ch/over	48Vdc	**90.00**
551291100000	10A	miniature PCB mount relay	2 ch/over	110Vdc	**85.00**
551292200000	10A	miniature PCB mount relay	2 ch/over	220Vdc	**156.00**
551480120000	7A	miniature PCB mount relay	4 ch/over	12Vac	**81.00**
551480240000	7A	miniature PCB mount relay	4 ch/over	24Vac	**81.00**
551481100000	7A	miniature PCB mount relay	4 ch/over	110Vac	**95.00**
551482400000	7A	miniature PCB mount relay	4 ch/over	230Vac	**90.00**
551490120000	7A	miniature PCB mount relay	4 ch/over	12Vdc	**81.00**
551490240000	7A	miniature PCB mount relay	4 ch/over	24Vdc	**81.00**
551490480000	7A	miniature PCB mount relay	4 ch/over	48Vdc	**95.00**
551491100000	7A	miniature PCB mount relay	4 ch/over	110Vdc	**90.00**
551492200000	7A	miniature PCB mount relay	4 ch/over	220Vdc	**161.00**

Above prices do not include VAT. E&OE

55328...

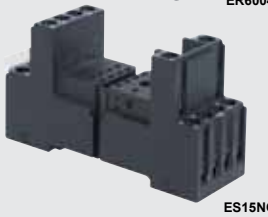
55329...


9414SMA


9434SMA

9402SPA

ER600420


ES15NCNER

55 series miniature industrial relays *(37.2 x 21 x 28 mm)*

Plug-in termination

- Plug-in or direct pcb mounting
- AC and DC coil voltages
- Lockable test/override button *(plug-in version only)*
- Mechanical flag indication of relay status *(plug-in version only)*
- 2, 3 and 4 pole versions

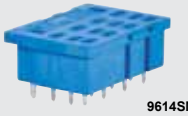
type	current	description	contact	coil voltage	price
2 changeover contacts					
553280120040	10A	miniature plug-in relay	2 changeover	12Vac	**76.00**
553280240040	10A	miniature plug-in relay	2 changeover	24Vac	**76.00**
553280360040	10A	miniature plug-in relay	2 changeover	36Vac	**88.00**
553280480040	10A	miniature plug-in relay	2 changeover	48Vac	**88.00**
553280600040	10A	miniature plug-in relay	2 changeover	60Vac	**88.00**
553281100040	10A	miniature plug-in relay	2 changeover	110Vac	**88.00**
553282300040	10A	miniature plug-in relay	2 changeover	240Vac	**84.00**
553290120040	10A	miniature plug-in relay	2 changeover	12Vdc	**76.00**
553290240040	10A	miniature plug-in relay	2 changeover	24Vdc	**76.00**
553290360040	10A	miniature plug-in relay	2 changeover	36Vdc	**88.00**
553290480040	10A	miniature plug-in relay	2 changeover	48Vdc	**88.00**
553290600040	10A	miniature plug-in relay	2 changeover	60Vdc	**88.00**
553291100040	10A	miniature plug-in relay	2 changeover	110Vdc	**84.00**
553292200040	10A	miniature plug-in relay	2 changeover	220Vdc	**155.00**
4 changeover contacts					
553480120040	7A	miniature plug-in relay	4 changeover	12Vac	**81.00**
553480240040	7A	miniature plug-in relay	4 changeover	24Vac	**81.00**
553480360040	7A	miniature plug-in relay	4 changeover	36Vac	**94.00**
553480480040	7A	miniature plug-in relay	4 changeover	48Vac	**94.00**
553480600040	7A	miniature plug-in relay	4 changeover	60Vac	**94.00**
553481100040	7A	miniature plug-in relay	4 changeover	110Vac	**94.00**
553482400040	7A	miniature plug-in relay	4 changeover	240Vac	**89.00**
553490120040	7A	miniature plug-in relay	4 changeover	12Vdc	**81.00**
553490240040	7A	miniature plug-in relay	4 changeover	24Vdc	**81.00**
553490360040	7A	miniature plug-in relay	4 changeover	36Vdc	**94.00**
553490480040	7A	miniature plug-in relay	4 changeover	48Vdc	**94.00**
553490600040	7A	miniature plug-in relay	4 changeover	60Vdc	**94.00**
553491100040	7A	miniature plug-in relay	4 changeover	110Vdc	**89.00**
553492200040	7A	miniature plug-in relay	4 changeover	220Vdc	**160.00**
Other configurations:		*replace last two digits with following:*			
54		internal LED indicator for AC relays			**+7.20**
74		internal LED indicator for DC relays			**+7.20**

Sockets and accessories for 55 series relays

type	description	for relay	price
05627	DIN rail mountable support bracket for	5532/34	**16.80**
9412SMA	2 pole PCB mount socket for relay	5532	**23.00**
9414SMA	4 pole PCB mount socket for relay	5534	**24.00**
9432SMA	2 pole flange mount socket *(solder terminal)*	5532	**23.00**
9434SMA	4 pole flange mount socket *(solder terminal)*	5534	**24.00**
9402SPA*	2p surface/DIN mnt socket *(screw terminal)* with retaining clip	5532	**57.00**
9404SPA*	4p surface/DIN mnt socket *(screw terminal)* with retaining clip	5534	**63.00**
* *Accepts plug-in LED, diode, timing modules (plugs directly into socket) see pg* ***J-8***			
09406	8 way jumper link *(bridge bar)* for sockets	9402/04	**30.00**
06072	sheet of marking tags 6x12mm for relays/retain clip *(72 tags)*	5532/43	**134.00**
095004	spare marking tag for sockets	9701/02	**1.60**
ES152NCNER	black **Ersce** surface/DIN mount socket *(screw terminal)*	5532	**42.00**
ES154NCNER	black **Ersce** surface/DIN mount socket *(screw terminal)*	5534	**48.00**
ER600420	spring securing/release clip for socket	ES15	**5.50**
ER600210	clip-on marking plate *(top or bottom)* for socket *(10pcs)*	ES15	**39.00**

5632...

5634...


9614SMA

9604SMA

6233...

9213SMA

9203SMA

56 series miniature power relays *(38 x 21(2pole) 41(4pole) x 28mm)*

- Faston 187. 4.8x0.5mm termination
- Mechanical flag indication of relay status
- Lockable test/override button

type	current	description	contact configuration	coil voltage	price
563280120040	12A	miniature power relay	2 changeover	12Vac	**99.00**
563280240040	12A	miniature power relay	2 changeover	24Vac	**99.00**
563280480040	12A	miniature power relay	2 changeover	48Vac	**113.00**
563281100040	12A	miniature power relay	2 changeover	110Vac	**113.00**
563282400040	12A	miniature power relay	2 changeover	240Vac	**113.00**
563290120040	12A	miniature power relay	2 changeover	12Vdc	**99.00**
563290240040	12A	miniature power relay	2 changeover	24Vdc	**99.00**
563290480040	12A	miniature power relay	2 changeover	48Vdc	**113.00**
563290600040	12A	miniature power relay	2 changeover	60Vdc	**113.00**
563291100040	12A	miniature power relay	2 changeover	110Vdc	**113.00**
563292200040	12A	miniature power relay	2 changeover	220Vdc	**179.00**
563480120040	12A	miniature power relay	2 changeover	12Vac	**165.00**
563480240040	12A	miniature power relay	2 changeover	24Vac	**165.00**
563480480040	12A	miniature power relay	2 changeover	48Vac	**176.00**
563481100040	12A	miniature power relay	2 changeover	110Vac	**176.00**
563482400040	12A	miniature power relay	2 changeover	240Vac	**176.00**
563490120040	12A	miniature power relay	2 changeover	12Vdc	**165.00**
563490240040	12A	miniature power relay	2 changeover	24Vdc	**165.00**
563490480040	12A	miniature power relay	2 changeover	48Vdc	**176.00**
563490600040	12A	miniature power relay	2 changeover	60Vdc	**176.00**
563491100040	12A	miniature power relay	2 changeover	110Vdc	**176.00**
563492200040	12A	miniature power relay	2 changeover	220Vdc	**245.00**
Other configurations		*replace last two digits with following:*			
54		internal LED indicator for AC relays			**+32.00**
74		internal LED indicator for DC relays			**+32.00**
PCB termination:		replace 3rd digit 56(3) with a **(4)**			

Sockets and accessories for 56 series relays

		for relay	
05627	DIN rail mountable support bracket	5632	**16.80**
05647	DIN rail mountable support bracket	5634	**37.00**
9612SMA	PCB mount socket	5632	**24.00**
9614SMA	PCB mount socket	5634	**29.00**
9602SPA*	surface/DIN mount socket *(screw terminal)* with retaining clip	5632	**68.00**
9604SMA*	surface/DIN mount socket *(screw terminal)* with retaining clip	5634	**81.00**
06072	sheet of marking tags *(72 tags)* 6 x 12mm for relays/retain clip	5632/34	**134.00**
095004	spare marking tag for sockets	5632	**1.60**
090002	spare marking tag for sockets	5634	**1.60**

* *Accepts plug-in LED, diode, timing modules (plugs directly into socket)* *see pg* ***J-8***

62 series plug-in power relays *(47.5 x 38.2 x 36mm)*

- Plug-in or faston 187 (4.8x0.5mm) termination
- Mechanical flag indication of relay status
- Reinforced insulation between coil and contacts to EN60335-1
- Lockable test/override button

623380120040	16A	plug-in industrial power relay	3 changeover	12Vac	**117.00**
623380240040	16A	plug-in industrial power relay	3 changeover	24Vac	**117.00**
623380480040	16A	plug-in industrial power relay	3 changeover	48Vac	**127.00**
623381100040	16A	plug-in industrial power relay	3 changeover	110Vac	**127.00**
623382400040	16A	plug-in industrial power relay	3 changeover	240Vac	**124.00**
623384000040	16A	plug-in industrial power relay	3 changeover	400Vac	**152.00**
623390120040	16A	plug-in industrial power relay	3 changeover	12Vdc	**117.00**
623390240040	16A	plug-in industrial power relay	3 changeover	24Vdc	**117.00**
623390480040	16A	plug-in industrial power relay	3 changeover	48Vdc	**127.00**
623391100040	16A	plug-in industrial power relay	3 changeover	110Vdc	**124.00**
623392200040	16A	plug-in industrial power relay	3 changeover	220Vdc	**179.00**
Other configurations:		*replace last two digits with following:*			
54		internal LED indicator for AC relays			**+32.00**
74		internal LED indicator for DC relays			**+32.00**

Sockets and accessories for 62 series relays

			for relay	
9213SMA	PCB mount socket		6233	**24.00**
9233SMA	panel mnt *(flange)* solder terminal socket	for relay	6233	**24.00**
9203SMA	surface/DIN mount socket *(screw terminal)* standard	for relay	6233	**90.00**
06207	DIN rail mountable support bracket *(top mount)*	for relay	6233	**16.40**
06208	DIN rail mountable support bracket *(rear mount)*	for relay	6233	**16.40**
06072	sheet of marking tags *(72 tags)*	for relay	6233	**134.00**

Above prices do not include VAT. E&OE

6012...

6013...

9015

9013

9020SMA

9026SMA

9027SMA

9048

9003SMA

ES11CNER

60 series general purpose plug-in relays *(54.2 x 32.5 x 36.4mm)*

- 8pin (2pole) 11pin (3pole) round pin plug-in termination
- AC and DC coil voltages
- Lockable test/override button
- 2 pole (8 pin) and 3 pole (11 pin) changeover versions
- Mechanical flag indication of relay status and manual override facility

type	current	description	contact	coil voltage	price
601280120040	10A	plug-in industrial relay	2 changeover	12Vac	**103.00**
601280240040	10A	plug-in industrial relay	2 changeover	24Vac	**103.00**
601280360040	10A	plug-in industrial relay	2 changeover	36Vac	**113.00**
601280480040	10A	plug-in industrial relay	2 changeover	48Vac	**113.00**
601280600040	10A	plug-in industrial relay	2 changeover	60Vac	**113.00**
601281100040	10A	plug-in industrial relay	2 changeover	110Vac	**113.00**
601282400040	10A	plug-in industrial relay	2 changeover	240Vac	**110.00**
601284000040	10A	plug-in industrial relay	2 changeover	400Vac	**136.00**
601290120040	10A	plug-in industrial relay	2 changeover	12Vdc	**103.00**
601290240040	10A	plug-in industrial relay	2 changeover	24Vdc	**103.00**
601290360040	10A	plug-in industrial relay	2 changeover	36Vdc	**113.00**
601290480040	10A	plug-in industrial relay	2 changeover	48Vdc	**113.00**
601290600040	10A	plug-in industrial relay	2 changeover	60Vdc	**113.00**
601291100040	10A	plug-in industrial relay	2 changeover	110Vdc	**110.00**
601292200040	10A	plug-in industrial relay	2 changeover	220Vdc	**162.00**
601380120040	10A	plug-in industrial relay	3 changeover	12Vac	**106.00**
601380240040	10A	plug-in industrial relay	3 changeover	24Vac	**106.00**
601380360040	10A	plug-in industrial relay	3 changeover	36Vac	**116.00**
601380480040	10A	plug-in industrial relay	3 changeover	48Vac	**116.00**
601380600040	10A	plug-in industrial relay	3 changeover	60Vac	**116.00**
601381100040	10A	plug-in industrial relay	3 changeover	110Vac	**116.00**
601382400040	10A	plug-in industrial relay	3 changeover	240Vac	**113.00**
601384000040	10A	plug-in industrial relay	3 changeover	400Vac	**140.00**
601390120040	10A	plug-in industrial relay	3 changeover	12Vdc	**106.00**
601390240040	10A	plug-in industrial relay	3 changeover	24Vdc	**106.00**
601390360040	10A	plug-in industrial relay	3 changeover	36Vdc	**116.00**
601390480040	10A	plug-in industrial relay	3 changeover	48Vdc	**116.00**
601390600040	10A	plug-in industrial relay	3 changeover	60Vdc	**116.00**
601391100040	10A	plug-in industrial relay	3 changeover	110Vdc	**113.00**
601392200040	10A	plug-in industrial relay	3 changeover	220Vdc	**165.00**

Other configurations: *replace last two digits with following:*

54	internal LED indicator for AC relays	**+30.00**
74	internal LED indicator for DC relays	**+30.00**

Sockets and accessories for 60 series relays

9012	panel mnt *(flange)* solder terminal socket	for relay	6012	**19.00**
9013	panel mnt *(flange)* solder terminal socket	for relay	6013	**20.00**
9014	PCB mount socket for relay *(diameter 20.5mm)*	for relay	6012	**19.00**
90141	PCB mount socket for relay *(diameter 17.5mm)*	for relay	6013	**19.00**
9015	PCB mount socket for relay *(diameter 22.0mm)*	for relay	6012	**20.00**
90151	PCB mount socket for relay *(diameter 19.0mm)*	for relay	6013	**20.00**
9020SMA	surface/DIN mount socket *(screw terminal)* standard	for relay	6012	**54.00**
9021SMA	surface/DIN mount socket *(screw terminal)* standard	for relay	6013	**59.00**
9022SMA	surface/DIN mount socket *(screw terminal)* oval	for relay	6012	**34.00**
9023SMA	surface/DIN mount socket *(screw terminal)* oval	for relay	6013	**38.00**
9026SMA	surface/DIN mount socket *(screw terminal)* square	for relay	6012	**55.00**
9027SMA	surface/DIN mount socket *(screw terminal)* square	for relay	6013	**61.00**
9048	surface/DIN mount socket *(screw terminal)* rectangular	for relay	6012	**61.00**
9049	surface/DIN mount socket *(screw terminal)* rectangular	for relay	6013	**65.00**
9002SMA*	surface/DIN mount socket *(screw terminal)* for modules	for relay	6012	**58.00**
9003SMA*	surface/DIN mount socket *(screw terminal)* for modules	for relay	6013	**65.00**
06072	sheet of marking tags for relays *(72 tags)*	for relay	6012/13	**133.00**
09006	6 way jumper link *(bridge bar)*	for sockets	9002/03	**39.00**
090002	spare marking tag for sockets	for sockets	9002/03	**1.60**

* *Accepts plug-in LED, diode, timing modules (plugs directly into socket)* *see pg* ***J-8***

ES8CNER	Ersce surf/DIN mount socket *(screw terminal)* standard	black	6012	**43.00**
ES11CNER	Ersce surf/DIN mount socket *(screw terminal)* standard	black	6013	**46.00**

6531...

65 series high power relays *(42.2 x 32.2 x 36.5 mm)*

- Flange mount with faston 250 *(6.3 x 0.5mm)* termination
- Reinforced insulation between coil and contacts to EN60335-1
- AC and DC coil voltages

type	current	description	contact	coil voltage	price
20A 1 NO + 1 NC					
653180120000	20A	plug-in industrial power relay	1 NO + 1 NC	12Vac	**105.00**
653180240000	20A	plug-in industrial power relay	1 NO + 1 NC	24Vac	**105.00**
653180480000	20A	plug-in industrial power relay	1 NO + 1 NC	48Vac	**116.00**
653181100000	20A	plug-in industrial power relay	1 NO + 1 NC	110Vac	**116.00**
653182400000	20A	plug-in industrial power relay	1 NO + 1 NC	240Vac	**113.00**
653184000000	20A	plug-in industrial power relay	1 NO + 1 NC	400Vac	**141.00**
653190120000	20A	plug-in industrial power relay	1 NO + 1 NC	12Vdc	**105.00**
653190240000	20A	plug-in industrial power relay	1 NO + 1 NC	24Vdc	**105.00**
653190480000	20A	plug-in industrial power relay	1 NO + 1 NC	48Vdc	**116.00**
653191100000	20A	plug-in industrial power relay	1 NO + 1 NC	110Vdc	**113.00**
653192200000	20A	plug-in industrial power relay	1 NO + 1 NC	220Vdc	**168.00**
30A 1 NO					
• ≥ 3mm contact gap					
653180120300	30A	plug-in industrial power relay	1 NO	12Vac	**102.00**
653180240300	30A	plug-in industrial power relay	1 NO	24Vac	**102.00**
653180480300	30A	plug-in industrial power relay	1 NO	48Vac	**113.00**
653181100300	30A	plug-in industrial power relay	1 NO	110Vac	**113.00**
653182400300	30A	plug-in industrial power relay	1 NO	240Vac	**109.00**
653184000300	30A	plug-in industrial power relay	1 NO	400Vac	**138.00**
653190120300	30A	plug-in industrial power relay	1 NO	12Vdc	**102.00**
653190240300	30A	plug-in industrial power relay	1 NO	24Vdc	**102.00**
653190480300	30A	plug-in industrial power relay	1 NO	48Vdc	**113.00**
653191100300	30A	plug-in industrial power relay	1 NO	110Vdc	**109.00**
653192200300	30A	plug-in industrial power relay	1 NO	220Vdc	**165.00**

6531...

Other configurations:

PCB mount terminals: *replace 3rd digit 65(3) with **(6)***

Accessories for 65 series relays

06507	DIN rail mounting support frame	*(terminals facing forward)* **16.40**
06508	DIN rail mounting support frame	*(terminals facing down)* **16.40**

66 series high power 2 pole relays *(31 x 51.5 x 33.5mm)*

- Faston 250 (6.3x0.8 mm) termination
- Reinforced insulation between coil and contacts to EN60335-1
- AC and DC coil voltages
- 8mm, 6kV (1.2/50 µs) isolation, coil-contacts
- 2 pole changeover contacts

6682...

30A 2 changeover

668280120000	30A	plug-in industrial power relay	2 changeover	12Vac	**142.00**
668280240000	30A	plug-in industrial power relay	2 changeover	24Vac	**142.00**
668281100000	30A	plug-in industrial power relay	2 changeover	110Vac	**142.00**
668282400000	30A	plug-in industrial power relay	2 changeover	240Vac	**152.00**
668290120000	30A	plug-in industrial power relay	2 changeover	12Vdc	**142.00**
668290240000	30A	plug-in industrial power relay	2 changeover	24Vdc	**142.00**
668291100000	30A	plug-in industrial power relay	2 changeover	110Vdc	**152.00**

Accessories for 66 series relays

06607	DIN rail mounting support frame	*(terminals facing forward)* **16.80**

PCB termination: *replace 3rd digit 66(8) with **(2)***

Above prices do not include VAT. E&OE

9902

9902...59

9902...99

9902...09

9902...07

8630...

86000...

Plug-in modules are convenient add-on devices for relays which offer LED indication *(for ease of viewing relay status from a distance)*, diode protection, RC circuits, bypass and timing facilities for all socket-mounted plug-in relays. The modules simply plug into specific sockets to enhance the relays functionality.

type	LED colour	description	voltage	price
Diode module				
Recovery diode modules are used for DC applications, reverse voltage peaks of the coil are short circuited by the recovery diode, release time is increased by a factor of 3.				
9902300000	–	diode module *(standard polarity A1/+)*	6-220Vdc	**20.00**
LED module				
Used for AC and DC , the LED indicator illuminates when the relay coil is energised. Essential to connect "+" to terminal A1 in DC applications.				
9902002459	green	plug-in LED indicating module	6-24Vac/dc	**30.00**
9902006059	green	plug-in LED indicating module	28-60Vac/dc	**31.00**
9902023059	green	plug-in LED indicating module	110-240Vac/dc	**30.00**
LED + diode module				
Recovery diode + LED module are used for DC, reverse voltage peaks are short circuited by the recovery diode *(positive to terminal A1)*, release time is increased by approximately 3 times, if this is undesireable use a Varistor or RC module. LED indicator illuminates when coil is energised.				
9902902499	green	plug-in LED indicating + diode module	6-24Vdc	**34.00**
9902906099	green	plug-in LED indicating + diode module	28-60Vdc	**35.00**
9902922099	green	plug-in LED indicating + diode module	110-220Vdc	**34.00**
LED + Varistor module				
LED + Varistor modules are used for AC and DC coils, reverse voltage peaks of the relay coil are limited by the Varistor to approximately 2.5 times the nominal voltage of the supply. Insignificant increase in release times.				
9902002498	green	plug-in LED + Varistor module	6-24Vac/dc	**40.00**
9902006098	green	plug-in LED + Varistor module	28-60Vac/dc	**41.00**
9902023098	green	plug-in LED + Varistor module	110-240Vac/dc	**40.00**
RC circuit module				
RC circuit modules are used for AC and DC applications. The reverse voltage peaks of the coil are limited by th RC module to approximately 2.5 times the nominal supply voltage. Insignificant increase in release times.				
9902002409	green	plug-in RC module fo AC and DC lines	6-24Vac/dc	**42.00**
9902006009	green	plug-in RC module fo AC and DC lines	28-60Vac/dc	**44.00**
9902023009	green	plug-in RC module fo AC and DC lines	110-240Vac/dc	**42.00**
Residual current bypass module				
Bypass modules are used in applications for 110 and 220Vac relays with a tendency to fail to release, mainly caused by residual currents from AC proximity switches or inductive coupling caused by long parallel lying AC control lines.				
9902823007	–	plug-in residual current bypass module	110-240Vac	**34.00**
Timer modules				
• Multi-function, multi-voltage timer module • Time range 1s, 10s, 100s, 10m, 100m, 10hr, 100hr *(adjustable)* • Plugs directly into sockets converting standard relays into timing devices				
863000240000	green	multi-range, bi-functional timer module	12-24Vac/dc	**264.00**
863082400000	green	multi-range, bi-functional timer module	230Vac	**296.00**
860002400000	green	multi-range, multi-function timer module	12-240Vac/dc	**464.00**

Type	No of steps	Sequence 1	2	3	4
20.23	2				
20.26	3				
20.24	4				
20.28	4				

2603...

26 series step relays (pulse "ON", pulse "OFF") *(H) 47 x (W) 45 (D) 22 mm*

- Base/chassis mounting
- Screw terminal connections
- AC coil *(maximum pulse d uration 1 hour)*
- Electrically separated coils and contact circuits

type	switch current	no. steps	description	contact configuration	coil voltage	price
260380120000	10A	2 step	base mounting step relay	1NO+1NC	12Vac	**122.00**
260380240000	10A	2 step	base mounting step relay	1NO+1NC	24Vac	**122.00**
260381100000	10A	2 step	base mounting step relay	1NO+1NC	110Vac	**122.00**
260382300000	10A	2 step	base mounting step relay	1NO+1NC	230Vac	**122.00**
0269012	module for operating above 26 series with DC				12Vdc	**91.00**
0269024	module for operating above 26 series with DC				24Vdc	**91.00**

2023...

20 series modular step relays *(H) 84 x (W) 17.5 x (D) 57 mm*

- Modular DIN rail mounting
- Compact one module (17.5 mm) wide
- AC and DC coils
- Maximum pulse duration: 1 hour
- Manual override/test button
- Mechanical flag indicators of contact positions

202380120000	16A	2 step	modular pulse step relay	2 contact	12 Vac	**256.00**
202380240000	16A	2 step	modular pulse step relay	2 contact	24 Vac	**256.00**
202382300000	16A	2 step	modular pulse step relay	2 contact	230 Vac	**256.00**
202390120000	16A	2 step	modular pulse step relay	2 contact	12 Vdc	**256.00**
202390240000	16A	2 step	modular pulse step relay	2 contact	24 Vdc	**256.00**
202680120000	16A	3 step	modular pulse step relay	2 contact	12 Vac	**256.00**
202680240000	16A	3 step	modular pulse step relay	2 contact	24 Vac	**256.00**
202682300000	16A	3 step	modular pulse step relay	2 contact	230 Vac	**256.00**
202690120000	16A	3 step	modular pulse step relay	2 contact	12 Vdc	**256.00**
202690240000	16A	3 step	modular pulse step relay	2 contact	24 Vdc	**256.00**
202480120000	16A	4 step	modular pulse step relay	2 contact	12 Vac	**256.00**
202480240000	16A	4 step	modular pulse step relay	2 contact	24 Vac	**256.00**
202482300000	16A	4 step	modular pulse step relay	2 contact	230 Vac	**256.00**
202490120000	16A	4 step	modular pulse step relay	2 contact	12 Vdc	**256.00**
202490240000	16A	4 step	modular pulse step relay	2 contact	24 Vdc	**256.00**
202880120000	16A	4 step	modular pulse step relay	2 contact	12 Vac	**256.00**
202880240000	16A	4 step	modular pulse step relay	2 contact	24 Vac	**256.00**
202882300000	16A	4 step	modular pulse step relay	2 contact	230 Vac	**256.00**
202890120000	16A	4 step	modular pulse step relay	2 contact	12 Vdc	**256.00**
202890240000	16A	4 step	modular pulse step relay	2 contact	24 Vdc	**256.00**

1041...

Daylight switches 230Vac *(IP54)*

- Adjustable sensitivity: 1 to 80 Lux *(10.61 fixed at 10 Lux)*
- Built-in time delay: *(ON 15 sec / OFF 30 sec)*
- LED indication of relay status

10.40 series wall or pole mount *(H) 110 x (W) 59 (D) 40 mm*

- Pole or wall mounting *(brackets supplied)*

104182300000	16A	light dependant daylight switch	1 NO	230Vac	**506.00**
104282300000	16A	light dependant daylight switch	2 NO	230Vac	**634.00**

1051...

10.51 miniature wall or pole mount *(H) 81 x (W) 37 (D) 37 mm*

- Pole or wall mounting *(brackets supplied)*

105182300000	12A	mini light dependant daylight switch	1 NO	230Vac	**452.00**

10.61 round hole mount *(M18 thread)* *(H) 41 x (Ø) 81 mm*

- Lux setting fixed at 10 Lux

106182300000	16A	hole mount daylight switch	1 NO	230Vac	**506.00**

Above prices do not include VAT. E&OE

2232...

2234...

02235

19210024

Modular contactors 25A

- Modular DIN rail mount
- AC/DC silent coil *(with varistor protection)*
- Continuous duty coils and contacts
- Protective separation *(reinforced insulation)* between coil and contacts
- Auto - On - Off selector
- Mechanical flag and LED indicators as standard
- Clip-on auxiliary contact module available *(1NO+1NC or 2NO)*

2 Pole modular contactor — 25A — *(H) 89 x (W) 17.5 (D) 61 mm*

- Compact (one module wide) 17.5 mm

type	rated power AC-1 (A)	rated power AC-3 kW (230V)	description	modules width in 17.5 mm	contact configuration	coil voltage ac/dc	price
223200121340	25A	1.0 kW *	modular contactor	1	2 NO	12V	**318.00**
223200241340	25A	1.0 kW *	modular contactor	1	2 NO	24V	**318.00**
223200481340	25A	1.0 kW *	modular contactor	1	2 NO	48V	**318.00**
223202301340	25A	1.0 kW *	modular contactor	1	2 NO	230V	**318.00**
223200121440	25A	1.0 kW *	modular contactor	1	2 NC	12V	**318.00**
223200241440	25A	1.0 kW *	modular contactor	1	2 NC	24V	**318.00**
223200481440	25A	1.0 kW *	modular contactor	1	2 NC	48V	**318.00**
223202301440	25A	1.0 kW *	modular contactor	1	2 NC	230V	**318.00**
223200121540	25A	1.0 kW *	modular contactor	1	1NO + 1NC	12V	**318.00**
223200241540	25A	1.0 kW *	modular contactor	1	1NO + 1NC	24V	**318.00**
223200481540	25A	1.0 kW *	modular contactor	1	1NO + 1NC	48V	**318.00**
223202301540	25A	1.0 kW *	modular contactor	1	1NO + 1NC	230V	**318.00**

* *Single phase motor rating 230Vac*

4 Pole modular contactor — 25A — *(H) 89 x (W) 35 (D) 61 mm*

- Compact (two modules wide) 35 mm

type	rated power AC-1 (A)	rated power AC-3 kW (400V)	description	modules width in 17.5 mm	contact configuration	coil voltage ac/dc	price
223400121340	25A	4.0 kW	modular contactor	2	4 NO	12V	**435.00**
223400241340	25A	4.0 kW	modular contactor	2	4 NO	24V	**435.00**
223400481340	25A	4.0 kW	modular contactor	2	4 NO	48V	**435.00**
223402301340	25A	4.0 kW	modular contactor	2	4 NO	230V	**435.00**
223400121740	25A	4.0 kW	modular contactor	2	2NO + 2NC	12V	**435.00**
223400241740	25A	4.0 kW	modular contactor	2	2NO + 2NC	24V	**435.00**
223400481740	25A	4.0 kW	modular contactor	2	2NO + 2NC	48V	**435.00**
223402301740	25A	4.0 kW	modular contactor	2	2NO + 2NC	230V	**435.00**
223400121640	25A	4.0 kW	modular contactor	2	2NO + 2NC	12V	**435.00**
223400241640	25A	4.0 kW	modular contactor	2	2NO + 2NC	24V	**435.00**
223400841640	25A	4.0 kW	modular contactor	2	2NO + 2NC	48V	**435.00**
223402301640	25A	4.0 kW	modular contactor	2	2NO + 2NC	230V	**435.00**

Clip-on auxiliaries for above contactors — *(H) 84 x (W) 8.8 (D) 61 mm*

02235	6A	clip-on auxiliary contact block	0.5	1NO + 1NC		**223.00**
02233	6A	clip-on auxiliary contact block	0.5	2 NO		**223.00**

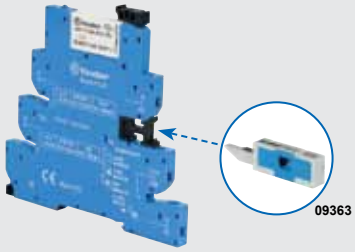
Accessories for above contactors

02218	8-way	jumper link for 2 pole contactors	1	17.5mm	blue	**47.00**
02226	6-way	jumper link for 4 pole contactors	2	35mm	blue	**47.00**
02001	adaptor	chassis mounting adaptor	1	17.5mm		**4.00**
01101	adaptor	chassis mounting adaptor	2	35mm		**4.00**
02003	separator	rail mounting contactor separator	-	3 mm		**13.00**
06072	sheet	contactor marking tags	1	6x12mm	*(72 tags)*	**134.00**

19 series modular DIN rail mount relay — *(H) 84 x (W) 11.2 (D) 57 mm*

- 3 function selector switch — - Auto: works as a monostable relay; - Off: relay permanently OFF; - On: relay permanently ON
- Slimline *(11.2mm wide)* modular relay
- LED indication - auto-off-on selector
- DIN rail mounting

192100240000	10A	slimline	modular relay	1 ch/over	24Vac/dc	**326.00**
01940		sheet of marker tags for above relay			*(40 x tags)*	**60.00**

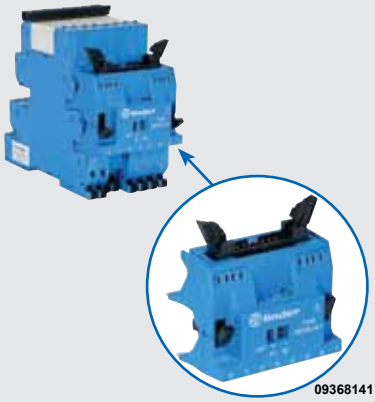


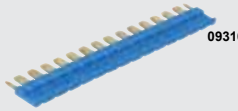
393100240060

393070249024

394100125060

392100240060





39 series Master **INTERFACE** modules slimline *(90.7 x 6.2 x 94.3mm)*

- Space saving 6.2mm wide
- Connections for 16 way jumper links *(bridging bars)*
- Integral LED coil indication and protection circuit
- Secure relay retention and easy ejection clip
- DIN 35 rail mounting (EN60715)

type	description	current	contact	switching voltage	operating voltage	price
***MasterPLUS** relay interface modules (general interface for use in any type of system and application)*						
• Accepts output fuse module **(09363)** for ease / space efficient protection of output circuits • Common connection possible with optional 16 way jumper link (term A1, A2, 11)						
Electromechanical relays						
393100120060	relay interface module	6A	1 ch/over	–	12Vac/dc	**151.00**
393100240060	relay interface module	6A	1 ch/over	–	24Vac/dc	**151.00**
393182300060	relay interface module	6A	1 ch/over	–	230Vac	**199.00**
Solid state relays						
393070129024	relay interface module	2A	1 NO	1.5...24 DC	12Vdc	**302.00**
393070249024	relay interface module	2A	1 NO	1.5...24 DC	24Vdc	**302.00**
393082309024	relay interface module	2A	1 NO	1.5...24 DC	230Vac	**320.00**
*Master **INPUT** relay interface module*						
• Interface between auxiliary contacts, sensors, limit switches and PLC's/controllers • Permits full termination of input devices *(no additional terminals required)* • Quick and easy distribution of supply voltage with jumper links • Gold plated output contacts for improved compatibility with low energy PLC inputs						
Electromechanical relays						
394100125060	relay interface module	6A	1 ch/over	–	12Vac/dc	**184.00**
394100245060	relay interface module	6A	1 ch/over	–	24Vac/dc	**184.00**
394182305060	relay interface module	6A	1 ch/over	–	230Vac	**232.00**
Solid state relays						
394070129024	relay interface module	2A	1 NO	1.5...24 DC	12Vdc	**302.00**
394000249024	relay interface module	2A	1 NO	1.5...24 DC	24Vac/dc	**302.00**
394000248240	relay interface module	2A	1 NO	12...240 DC	24Vac/dc	**314.00**
394082309024	relay interface module	2A	1 NO	1.5...24 DC	230Vac	**320.00**
*Master **OUTPUT** relay interface module*						
• Interface between PLC's / controllers and output devices, valves, motors etc. • Quick and easy distribution of supply voltage with jumper link						
Electromechanical relays						
392100120060	relay interface module	6A	1 ch/over	–	12Vac/dc	**151.00**
392100240060	relay interface module	6A	1 ch/over	–	24Vac/dc	**151.00**
392182300060	relay interface module	6A	1 ch/over	–	230Vac	**199.00**
Solid state relays						
392070129024	relay interface module	2A	1 NO	1.5...24 DC	12Vdc	**302.00**
392070249024	relay interface module	2A	1 NO	1.5...24 DC	24Vdc	**302.00**
392082309024	relay interface module	2A	1 NO	1.5...24 DC	230Vac	**320.00**

Accessories for 39 series interface modules

09363	output fuse module plug-in fuse module for *MasterPLUS* interface *- accepts standard 20 x 5mm fuses up to 6A* *- quick easy connection to socket (simply plugs into socket)*					**46.00**
09368141	master adaptor *(interconnects 8 interface modules (to common ribbon cable)* *- permits easy connection of up to 8 interface modules A1/A2 (+ power supply) terminals to PLC outputs via 14 pole ribbon cable*					**288.00**
09316	16 way	plug-in jumper link *(bridge bar)*		36A - 250V	blue	**38.00**
093160	16 way	plug-in jumper link *(bridge bar)*		36A - 250V	black	**38.00**
093161	16 way	plug-in jumper link *(bridge bar)*		36A - 250V	red	**38.00**
09360	plastic separator for interface modules *(1.8 or 6.2mm separation)*					**12.60**

Above prices do not include VAT. E&OE

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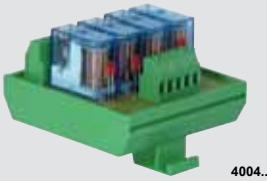
4004...

38 series *relay interface module* *(1 pole 16A / 2 pole 8A)*

- Sensitive DC coil or AC/DC coil versions
- Compact: (H) 90 x (W) 14 x (D) 77 mm
- Integral coil indication and protection circuit
- Easy ejection of relay using retaining clip
- DIN rail mounting (EN 60715)

type	current	description	contact	coil voltage	price
Electromechanical relays					
380170120050	16A	slimline relay interface	1 ch/over	12Vdc	**193.00**
380170240050	16A	slimline relay interface	1 ch/over	24Vac	**193.00**
380100240060	16A	slimline relay interface	1 ch/over	24Vac/dc	**246.00**
380102400060	16A	slimline relay interface	1 ch/over	240Vac/dc	**263.00**
385270120050	8A	slimline relay interface	2 ch/over	12Vdc	**195.00**
385270240050	8A	slimline relay interface	2 ch/over	24Vac	**195.00**
385200240060	8A	slimline relay interface	2 ch/over	24Vac/dc	**251.00**
385202400060	8A	slimline relay interface	2 ch/over	240Vac/dc	**267.00**
Solid state relays			switching voltage	operating range	
383170249024	5A	miniature power relay	1.5 - 24Vdc	24Vdc	**368.00**
383170248240	3A	miniature power relay	12 - 240Vac	24Vdc	**358.00**

4304 series relay interface module 4-way *(43 series relay 10A)*

- 4-way DIN rail mounting relay interface module
- Compact: (H) 90 x (W) 54 x (D) 30 mm *(with relays)*
- Incorporates LED relay status indication and diode protected coils
- Negative common *(standard)* / positive (+) common *(on request)*

43049012	10A	4 way fixed relay interface	1 ch/over	12Vdc	**248.00**
43049024	10A	4 way fixed relay interface	1 ch/over	24Vdc	**248.00**
43049000P	4 way	plug-in version *(relays to be ordered seperately)*		12/24Vdc	**158.00**

34 series relay interface module 8-way *(34 series relay 6A)*

- 8-way DIN rail mounting relay interface module
- Compact: (H) 90 x (W) 54 x (D) 45 mm *(with relays)*
- Incorporates LED relay status indication and diode protected coils
- Negative common *(standard)* / positive (+) common *(on request)*

34089012	6A	8 way fixed relay interface	1 ch/over	12Vdc	**631.00**
34089024	6A	8 way fixed relay interface	1 ch/over	24Vdc	**631.00**

4004 series relay interface module 4-way *(40 series relay 10A)*

- 4-way DIN rail mounting relay interface module
- Compact: (H) 76 x (W) 71 x (D) 55 mm *(with relays)*
- Incorporates LED relay status indication and diode protected coils
- Negative common *(standard)* / positive (+) common *(on request)*

40049012	10A	4 way fixed relay interface	1 ch/over	12Vdc	**302.00**
40049024	10A	4 way fixed relay interface	1 ch/over	24Vdc	**302.00**
40048230	10A	4 way fixed relay interface	1 ch/over	230Vac	**483.00**
40049000P	4 way	plug-in version *(relays to be ordered seperately)*		12/24Vdc	**232.00**
40048000P	4 way	plug-in version *(relays to be ordered seperately)*		230Vac	**232.00**

SU963460

SU865070

ESUC0450

WF311100

All Celduc SSR's *(solid state relays)* are fitted with back-to-back thyristors and employ 4th generation TMS² technology with a very long life expectancy.

Celpac® SU series power relays *(H) 42 x (W) 91 x (D) 22.5 mm*

- Cost-effective, reliable and compact solution *(22.5mm pitch SSR solution)*
- Mounting configuration compatible with all standard hockey puck style relays
- Pluggable control terminals
- Over-voltage protection on input *(transil)*
- IP20 terminal protection cover *(removable)*
- Control status LED indication

type	switching current	switching voltage	peak voltage	control voltage	description	price
SU9 range	for resistive loads (AC-51) - heating				*(H) 91 x (W) 42 x (D) 22.5 mm*	
• Zero-cross switching specifically designed for resistive loads						
SU942460	25A	12-280Vac	600V	3-32Vdc	zero-cross for resistive loads	**285.00**
SU963460	35A	24-600Vac	1200V	3.5-32Vdc	zero-cross for resistive loads	**458.00**
SU965460	50A	24-600Vac	1200V	3.5-32Vdc	zero-cross for resistive loads	**492.00**
SU967460	75A	24-600Vac	1200V	3.5-32Vdc	zero-cross for resistive loads	**544.00**
SU8 range	for most load types - lamps and infrared				*(H) 91 x (W) 42 x (D) 22.5 mm*	
• Zero-cross switching with low zero-crossing level (<12V)						
DC control						
SU842070	25A	12-275VAC	600V	3-32Vdc	zero-cross for most loads	**453.00**
SU865070	50A	24-510VAC	1200V	3.5-32Vdc	zero-cross for most loads	**582.00**
SU867070	75A	24-510VAC	1200V	3.5-32Vdc	zero-cross for most loads	**997.00**
AC control						
SU842970	25A	12-275Vac	600V	180-240Vac	zero-cross for most loads	**468.00**
SU865970	50A	24-510Vac	1200V	180-240Vac	zero-cross for most loads	**611.00**
SU7 range	for motor loads (AC-53) inductive loads and phase angle control applications					
• Random or instant switching (<50µs)						
SU765070	50A	24-510Vac	1200V	3.5-32Vdc	random for motor loads	**911.00**

ECOM **temperature controller to combine with SU power solid state relay**

Temperature controller, current monitor and communication interface in one unit, to be combined with a Solid State Relay (SSR) for space reduction and wiring simplification.

- Temp control with thermocouple input, loop and heater break alarms and cooling PID autotuning
- Current monitoring and alarms up to 50A with integrated current transformer (CT)
- RS-485 communication with MODBUS RTU *(others on request)*
- Plugs directly onto SU 22.5mm pitch SSR's
- J,K,T,E thermocouples
- Auxiliary output for cooling, alarm or 3 Phase application control
- ON-OFF with hysteresis / P / PI / PID / PD time proportioned, control algorithms

ECOM0010	24Vdc	combined temperature controller, current monitoring, comm. module	**2403.00**

ESUC **current monitoring module for SU range**

Mounted directly onto SU or SUL devices, this module provides diagnostic information for up to 5 heating elements in parallel.

- Permanent load current monitoring
- Current teaching function by push button or external logic input
- One alarm threshold 0.84 Iteach (-16%)
- Detection of: - partial load break - open mains - open load - short-circuited SSR

ESUC0450	8-30Vdc	2-40A	current monitoring module	**1239.00**

Accessories SU series SSR's

type	thermal characteristics	description	dimensions (mm) (H)	(W)	(D)	
Heatsinks	*SSR current ratings are based on sufficient cooling by the use of heatsinks*					
WF311100	3K/W	DIN rail mountable heatsink	80	22.5	73	**297.00**
WF151200	2.2K/W	DIN rail mountable heatsink	80	45	73	**217.00**
5TH24000	thermal transfer pads	for mounting SU relays onto heatsinks				**9.00**

Above prices do not include VAT. E&OE

All Celduc SSR's *(solid state relays)* are fitted with back-to-back thyristors and employ 4th generation TMS² technology with a very long lifetime expectancy.

Okpac® SO series power relays *(H) 59.4 x (W) 45 x (D) 30mm*

- Very high immunity according to IEC/EN 61000-4-4 (bursts) and IEC/EN 61000-4-5 *(spikes)*
- EMC compatible for industrial environment
- Control status LED
- Regulated input current
- IP20 protection cover *(removable)*

SO942460

type	switching current	switching voltage	peak voltage	control voltage	description	price
SO9 range	*for resistive loads (AC-51) - heating*				*(H) 59.4 x (W) 45 x (D) 30mm*	
• Zero-cross switching specifically designed for resistive loads • Input overvoltage protection						
SO941460	12A	12-280Vac	600V	3-32Vdc	zero-cross for resistive loads	**249.00**
SO942460	25A	12-280Vac	600V	3-32Vdc	zero-cross for resistive loads	**277.00**
SO943460	35A	12-280Vac	600V	3-32Vdc	zero-cross for resistive loads	**342.00**
SO965460	50A	24-600Vac	1200V	3-32Vdc	zero-cross for resistive loads	**478.00**
SO967460	75A	24-600Vac	1200V	3-32Vdc	zero-cross for resistive loads	**528.00**
SO8 range	for most load types - lamps and infrared				*(H) 59.4 x (W) 45 x (D) 30mm*	
• Zero-cross switching with low zero-crossing level (<12V) • Voltage protection on input *(transil)* and output (VDR)						
DC control						
SO842074	25A	12-275Vac	600V	3-32Vdc	zero-cross for most loads	**440.00**
SO845070	50A	12-275Vac	600V	3-32Vdc	zero-cross for most loads	**498.00**
SO865070	50A	24-510Vac	1200V	3.5-32Vdc	zero-cross for most loads	**565.00**
SO867070	75A	24-510Vac	1200V	3.5-32Vdc	zero-cross for most loads	**968.00**
SO868070	95A	24-510Vac	1200V	3.5-32Vdc	zero-cross for most loads	**1073.00**
SO869070	125A	24-510Vac	1200V	3.5-32Vdc	zero-cross for most loads	**1813.00**
AC control						
SO842974	25A	12-275Vac	600V	20-265Vac/dc	zero-cross for most loads	**468.00**
SO865970	50A	24-510Vac	1200V	20-265Vac/dc	zero-cross for most loads	**593.00**
SO867970	75A	24-510Vac	1200V	20-265Vac/dc	zero-cross for most loads	**995.00**
SO868970	95A	24-510Vac	1200V	20-265Vac/dc	zero-cross for most loads	**1117.00**
SO869970	125A	24-510Vac	1200V	20-265Vac/dc	zero-cross for most loads	**1548.00**

SO867070

SO7 range	for motor loads (AC-53) inductive loads and phase angle control applications					
• Random switching Solid State Relay designed for high inductive loads, motors (AC-53) • Over-Voltage protection on input *(transil)* and output (RC and VDR)						
DC control						
SO765090	50A	24-510Vac	1200V	3.5-32Vdc	random for motor loads	**757.00**
SO767090	75A	24-510Vac	1200V	3.5-32Vdc	random for motor loads	**1062.00**
SO768090	95A	24-510Vac	1200V	3.5-32Vdc	random for motor loads	**1177.00**

SO765090

SOB series two phase SSR's					*(H) 58.5 x (W) 45 x (D) 30 mm*	
• Dual zero cross Solid State Relay with LED indication for each input • Plug-in control terminals *(connector to be ordered separately)*						
SOB9 *designed for resistive loads*						
SOB965660	2x50A	24-600VAC	1200V	8-30Vdc	zero-cross for resistive loads	**1410.00**
SOB8 *designed for most loads*						
SOB865660	2x50A	24-600VAC	1200V	8-30Vdc	zero-cross for most loads	**1490.00**
1Y042715	plug-in input screw terminal for ***SOB 9*** *(above)* dual phase relay					**57.00**

WF151200

type	thermal characteristics	description	dimensions (mm) (H)	(W)	(D)	price
Heatsinks	*SSR current ratings are based on sufficient cooling by the use of heatsinks*					
WF151200	2.2K/W	DIN rail mountable heatsink	80	45	72	**217.00**
WF108110	1.1K/W	DIN rail mountable heatsink	90	98	81	**310.00**
WF115100	0.9K/W	DIN rail mountable heatsink	110	90	100	**968.00**
5TH23000	thermal transfer pads	for mounting SO relays onto heatsinks				**8.00**
1LD12020	DIN rail adaptor	for direct DIN rail mounting of SO relays				**64.00**

SO465420

SO4 proportional controllers

- Analog switching SSR for resistive load power control with phase angle principle
- Overvoltage protection by varistor
- 4-20mA control current or 0-10V voltage output
- IP20 protection cover *(removable)*
- Control status LED

type	switching current	switching voltage	peak voltage	control voltage	description	price
SO4 series proportional controllers					*(H) 58.5 x (W) 45 x (D) 30 mm*	
4-20mA control current input						
SO465420	50A	200-480Vac	1200V	4-20mA	proportional output SSR	**1230.00**
SO467420	75A	200-480Vac	1200V	4-20mA	proportional output SSR	**1411.00**
SO468420	95A	200-480Vac	1200V	4-20mA	proportional output SSR	**1580.00**
0-10V analog input						
• Control supply voltage 8-30Vdc						
SO465020	50A	200-480Vac	1200V	0-10V	proportional output SSR	**1352.00**
SO468020	75A	200-480Vac	1200V	0-10V	proportional output SSR	**1726.00**
SO469020	95A	200-480Vac	1200V	0-10V	proportional output SSR	**2071.00**
Potentiometer analog input						
• Control supply voltage 8-30Vdc						
SO465320	50A	200-480Vac	1200V	potentiometer	proportional output SSR	**1352.00**

SOM040200

SO3 series fast burst control mode (µP based)					*(H) 58.5 x (W) 45 x (D) 30 mm*	
Particularly suited to resistive loads with low thermal inertia like short wave Infra Red sources (IR lamps). It permits very fine control of power according to the analog input signal while reducing noise emission level *(EMC conducted emissions)*.						
• 0-10V Analog input voltage						
SO367001	75A	160-450Vac	1200V	0-10V	fast burst control SSR	**1778.00**

DC solid state relays	DC-in, DC-out		*(H) 58.5 x (W) 45 x (D) 30 mm*		
SOM range					
Designed to switch DC loads e.g. solenoid valves, brakes, indicators.					
• Latest MOSFET technology generation • Ultra low on-state resistance • Low output leakage current and control current • Built-in overvoltage protection					
SOM020100	20A	5-60Vdc	100V	3.5-32Vdc	DC output Solid State Relay	**1058.00**
SOM040200	40A	5-110Vdc	200V	3.5-32Vdc	DC output Solid State Relay	**1217.00**

Accessories for above SO series relays

WF151200

type	thermal characteristics	description	dimensions (mm) (H)	(W)	(D)	price
Heatsinks	*SSR ratings are based on sufficient cooling by the use of heatsinks*					
WF151200	2.2K/W	DIN rail mountable heatsink	80	45	72	**217.00**
WF108110	1.1K/W	DIN rail mountable heatsink	90	98	81	**310.00**
WF115100	0.9K/W	DIN rail mountable heatsink	110	90	100	**968.00**
5TH23000	thermal transfer pads	for mounting SO relays onto heatsinks				**7.40**
1LD12020	DIN rail adaptor	for direct rail mounting of SO relays				**64.00**

Above prices do not include VAT. E&OE

SGB967360E

Three phase Solid State Relays

All three-phase solid state relays incorporate new high efficiency back to back thyristors on output with TMS² technology for a long lifetime expectancy and high surge currents.

- Three phase zero cross solid state relays
- Control status LED
- Conforms to: IEC/EN 60947-4-3, CEI 62314, UL-cUL

type	switching current	switching voltage	peak voltage	control voltage	description	price
SGB series two leg three-phase relays					*(H) 75.2 x (W) 100 x (D) 46 mm*	
Designed for controlling three-wire three-phase loads connected in star or delta *(if balanced without neutral)*. Two of the three phases are switched by the SSR and the third being directly connected.						
• Three phase zero cross solid state relay with one direct connected phase • Designed for resistive loads						
SGB965360E	3x50A	24-600Vac	1200V	10-30Vdc	zero cross for resistive loads	**1257.00**
SGB967360E	3x75A	24-600Vac	1200V	10-30Vdc	zero cross for resistive loads	**1559.00**
SGT series three-phase solid state relays					*(H) 75.2 x (W) 100 x (D) 46 mm*	
Designed for controlling three-wire three-phase loads.						
• Three phase zero cross solid state relay • Designed for resistive loads (AC-51)						
DC control						
SGT965360E	3x50A	24-600Vac	1200V	10-30Vdc	zero cross for resistive loads	**1576.00**
SGT967360E	3x75A	24-600Vac	1200V	10-30Vdc	zero cross for resistive loads	**1867.00**
SGT968360E	3x95A	24-600Vac	1200V	10-30Vdc	zero cross for resistive loads	**2147.00**
SGT769390E	3x125A	24-520Vac	1200V	8.5-30Vdc	random for rmost loads	**4785.00**
AC control						
SGT967960E	3x75A	24-600Vac	1200V	90-240Vac	zero cross for resistive loads	**1960.00**

SGT967360E

Accessories *for above three-phase series relays*

type	thermal characteristics	description	dimensions (mm) (H)	(W)	(D)	
Heatsinks	*SSR ratings are based on sufficient cooling by the use of heatsinks*					
WF115100	0.9K/W	DIN rail mountable heatsink	110	90	100	**968.00**
1K199000	cover	transparent terminal cover for relays SGB and SGT				**55.00**

PCB mount miniature solid state relays

PCB range solid state relays are 100% compatible with 5mm pitch electromechanical relays and can be soldered directly to PCBs or plugged into DIN rail mounted sockets.

- Over-voltage protection on output (RC) high immunity to IEC/EN 61000-4-4

SLA02220

SL range (slim)					*(H) 15 x (W) 28 x (D) 5 mm*	
AC output						
SLA02220	2A	12-280Vac	600V	7-20Vdc	AC slim PCB mount SSR	**270.00**
SLA03220	2A	12-280Vac	600V	18-32Vdc	AC slim PCB mount SSR	**270.00**
DC output						
SLD02205	4A	0-32Vdc	60V	7-20Vdc	AC slim PCB mount SSR	**231.00**
SLD03205	4A	0-32Vdc	60V	18-32Vdc	AC slim PCB mount SSR	**231.00**
SPA range (standard)					*(H) 15 x (W) 28 x (D) 5 mm*	
• Pin to pin compatible with electromechanical relays • AC and non-polarised control • Integrated clamping voltage						
AC output						
SPA07420	4A	12-275Vac	600V	12-30Vdc	AC std PCB mount SSR	**291.00**
ST range (low profile)					*(H) 15.7 x (W) 29 x (D) 12.7 mm*	
STA07220	2A	12-275Vac	600V	12-30Vdc	AC output solid state relay	**287.00**

Modular timing devices

- Multi-time range: 1s/10s/100s/10m/60m/10h/1day/10days *(adjustable.)* ON or OFF *(overide)*
- Excellent time accuracy and stability
- Compact robust modular housing *(one 17.5 mm wide module)*
- Changeover relay 8A-250Vac

TMM1

TMPL

TMD

TMST

L48TP...

type	description	supply	price
On-delay timer *(delay on make, relay switches after preset time)*			
TMP	multi-range, multi-voltage, on-delay electronic timer	24-48Vdc / 24 - 240Vac	**556.00**
Multi-function / multi-voltage / multi-range timer			
Functions	A – On-delay *(delay-on make relay switches after preset time)* B – Interval *(relay switches for preset time on energising)* C – Equal repeat *(start with OFF time)* D – Equal repeat *(start with ON time)* E – Relay energises ON closing external contact. timing begins on opening F – Pulse controlled interval *(timing begins on closing of external contact)* G – Pulse controlled interval *(timing begins on opening of external contact)* H – Delay on closing of external contact as well as opening of contact I – Step relay *(relay changes state on each closure of external contact)* J – Pulse generator unequal repeat OFF time adjustable on time fixed 0.5sec		
TMM1	multi-range, multi-voltage, multi-function timer	12 - 240Vac/dc	**710.00**
Unequal repeat timer *(separately adjustable ON and OFF times)*			
TMPL	multi-range, multi-voltage, unequal repeat timer	12 - 240Vac/dc	**1053.00**
Delay on de-energisation timer *(relay remains energised for preset time after removal of supply)*			
• Selectable time ranges: 0.06s/6s/60s/180s *(adjustable)*			
TMD	multi-range, multi-voltage delay-on de-energisation	24 - 240Vac/dc	**1328.00**
Star-delta timer			
• Selectable time ranges: delay - 1s/10s/60s/10min adjustable / transition 20-300ms *(adjustable)*			
TMST	multi-range, multi-voltage, star-delta electronic timer	24 - 48Vdc / 24-240Vac	**650.00**
TMSTA440	multi-range, star-delta electronic timer	380 - 440Vac	**650.00**
Panel-mount timers (48 x 48 mm)			
• Multi-voltage: 24Vac/dc, 110Vac, 220-240Vac • Plug-in *(base or panel mount)* • Changeover relay (5A 250Vac) • 8-pin plug-in			
On-delay timer *(delay-on make, relay switches after pre-set time period)*			
L48TPS 240	multi-range/multi-voltage on-delay electric timer s - 3sec / 12sec / 100sec / 780sec *(adjustable)*	24Vdc / 24/110 / 240Vac	**425.00**
L48TPM 240	multi-range / multi-voltage *(2-relay output)* on-delay timer 1sec/10sec/1min/10min *(adjustable)*	24Vdc / 24/110 / 240Vac	**425.00**
On-delay timer two changeover relays *(one configurable for instantaneous switching)*			
L48TPBM 240	on-delay panel mount electronic timer 0.05-1s/10s/1min/10min	220 / 240Vac	**494.00**
Accessories			
ES8CNER	8 pin surface/DIN rail mounting relay socket	*(screw terminals)*	**43.00**
D-48Y	flush-mounting bracket for panel mounting above L48 timers		**21.00**
P3G08	8 pin socket for panel mounting *(rear terminals)*	*(screw terminals)*	**27.00**

Above prices do not include VAT. E&OE

- Modular DIN rail mounting *(aligns with standard MCB's)*
- Adjustable "trip" and "reset delay
- True RMS measurements

PMV10A440

type	description	monitored voltage	module width (mm)	price
Phase failure / reversal relay				
PMV10A440	phase failure / phase reversal relay	208 - 480Vac	18 mm	**536.00**
PMV20A575	phase failure / phase reversal relay	208 - 575Vac	35 mm	**641.00**

Voltage monitors *single or three phase*

- Voltage monitoring relays, self powered , for minimum and maximum voltage
- Adjustments
  - "V max" maximum voltage tripping threshold 105-115% Ue
  - "V min" minimum voltage tripping threshold 80-95% Ue
  - "tripping" and "reset" time delay 0.1-20sec

PMV55A240

Single phase monitoring

PMV55A240	single-phase over/under voltage monitor	208 - 240Vac	35 mm	**1236.00**

Three phase monitoring

- Self powered, for minimum and maximum voltage, phase loss and incorrect phase sequence

Three phase monitoring *(without neutral)*

PMV50A575	3-phase over/under voltage monitor	380 - 575Vac	35 mm	**1236.00**

Three phase monitoring *(with or without neutral)* self powered

- For minimum and maximum voltage, phase loss, neutral loss and incorrect phase sequence

PMV50NA440	minimum and maximum AC voltage	380 - 440Vac	54 mm	**1739.00**
PMV50NA600	minimum and maximum AC voltage	480 - 600Vac	54 mm	**2173.00**

Current monitoring relays *TRMS measurements*

PMA30240

- AC/DC minimum or maximum current control
- Multi-voltage auxilliary power supply 24-240 Vac/dc
- Direct connection up to 16A or by current transformer (CT)
- Automatic or manual reset
- Adjustments
  - "max" or "min" current tripping threshold: 5-100% Ie
  - maximum hysteresis threshold: 1-50%
  - "trip" delay: 0.1-30sec
  - "inhibition" time - external input or power up: 1-60sec
  - current selection: 5A or 16A
  - tripping memory *(latch):* On or Off

PMA30240	minimum or maximum current monitor	24-240 Vac/dc	35 mm	**1282.00**

Pump protection relay

PMA50...

- Pump protection relay against dry running, auxiliary AC power supply
- Single or three-phase systems *(selectable)*
- Maximum AC current and minimum cosφ. Delayed trip
- Phase loss and incorrect phase sequence. Instantaneous trip
- Voltage control range 80-660Vac
- Adjustments
  - "max" cosφ threshold: 0.1-0.99
  - maximum *(over)* current threshold: 10-100%
  - "trip" delay for min cosφ and max current: 0.1-10sec
  - "inhibition" time - external input or power up: 1-60sec
  - automatic reset time: Off - 100min
  - current selection: 5A or 16A

PMA50A240	pump protection relay *(against dry running)*	220-240 Vac	54 mm	**2059.00**
PMA50A415	pump protection relay *(against dry running)*	380-440 Vac	54 mm	**2059.00**

LVM20

LVM25

LVM30

LVM40

SN1

LVMP...

Level control relays

- Level monitoring for electrically conductive liquids
- Modular DIN rail mounting *(aligns with standard MCB's)*
- Adjustable sensitivity
- Double insulation between supply, electrodes and output relay

type	description		supply voltage	module width	price
LVM20	three detecting probes *(Min, Max and Com)*				
• Adjustments:	- sensitivity	2.5-50kΩ			
• Emptying function					
LVM20A240	liquid level control relay	"emptying"	220-240Vac	35 mm	**550.00**
LVM20A415	liquid level control relay	"emptying"	380-415Vac	35 mm	**550.00**
LVM25	three detecting probes *(Min, Max and Com)*				
• Slimline one module (17.5mm) wide					
• Adjustments:	- sensitivity:	2.5-50kΩ			
• Selectable:	"emptying" (or) "filling" function *(with fail safe operation)*				
• Multi-voltage:	24 - 240Vac/dc				
LVM25240	multi-voltage liquid level control relay		24-240V	18 mm	**778.00**
LVM30	three detecting probes *(Min, Max and Com)*				
• Adjustments:	- sensitivity:	2.5-50kΩ			
	- probe signal delay:	1-10sec			
	- pump start delay:	0-30min			
• Selectable:	"emptying" (or) "filling" function *(with fail safe operation)*				
• Dual voltage:	**(A240)** 24Vac / 220-240Vac - **(A415)** 110-127 / 380-415Vac				
LVM30A240	liquid level control relay		24/240Vac	54 mm	**916.00**
LVM30A415	liquid level control relay		127/415V	54 mm	**916.00**
LVM40	five detecting probes *(Min1, Max1, Min2, Max2 and Com)*				
• Adjustments:	- sensitivity:	2.5-200kΩ *(sep adj for Max for foam detection)*			
	- probe signal delay:	1-10s			
	- pump start delay:	0-300s			
• Selectable:	5 x different functions				
	- standard emptying and alarms				
	- standard filling and alarms				
	- emptying and filling with priority start-up change control				
	- filling and filling with priority start-up change control				
	- well draining and tank filling and alarms				
• Relay outputs:	1 x changeover 1 x NO				
LVM40A240	5 probe liquid level control relay		220-240Vac	54 mm	**1373.00**
LVM40A415	5 probe liquid level control relay		380-415Vac	54 mm	**1373.00**
Level electrodes and holders for conductive liquids					
SN1	1-pole insulated electrode *(AISI 303 stainless steel)* for LVM relays				**97.00**
PS3S	electrode holder for 3 rod probes				**98.00**
P1000S	electrodes for PS3S holder	*(1 meter length)*			**46.00**
FS03-3P	electrode spacer disc	*(for extended probe length)*			**20.00**
PXL	extension locknut	*(for extending probe length)*			**14.00**
Pump start-up priority change relay					
To balance operation times, hence wear of two pumps, compressors, generators when two units *(primary and standby)* are installed in an installation.					
• 2 outputs 2NO (SPST)					
• Multi-voltage supply: 24/48Vdc / 24-240Vac					
LVMP05	pump priority change relay		24-48Vdc/24-240Vac	18 mm	**595.00**
LVMP10A240	pump priority change relay 2NO outputs		220-240Vac	54 mm	**916.00**

Above prices do not include VAT. E&OE

CTA4100A

CTA Timer / counter / tachometer

CTA 3-in-1 timer/counter/tachometer is able to receive external input signals and calculate the times of events, frequency and speed. The CTA unit can be applied to batch counting, total counting, length measurement.

- Compact: panel size 48 x 48mm
- Power supply: 12 Vdc ±10%, 100mA *(integrated power supply)*
- Display: double-line, 6-digit negative transmissive LCD display
- Input: non-voltage input (NPN) / Voltage input (PNP)
- Output 1: relay: SPST max.250Vac, 5A + Transistor: NPN open collector
- Output 2: relay: SPDT max.250Vac, 5A (or) Transistor: NPN open collector
- Easy DIP switch setup:

Timer - timing up or down 0.01 sec - 999.999 hours
on-delay, interval, repeat *(power on, pulse on, pulse off)*
Counter - counting up or down 1 or 2 stage, batch, total, dual counting
(speed selection: 1/30/200/3k/5k/10k Cps)
Tachometer - measurement in Hz *(can be configured to read RPM)*

S48/704/B6

type	supply voltage	output 2	RS-485 comms	description	price
CTA4100A	100~240 Vac	relay	no	multi-function Timer-Counter-Tachometer	**1083.00**
CTA4000A	100~240 Vac	Transistor	no	multi-function Timer-Counter-Tachometer	**1083.00**
CTA4001A	100~240 Vac	Transistor	yes	multi-function Timer-Counter-Tachometer	**1150.00**
CTA4100D	24 Vdc	relay	no	multi-function Timer-Counter-Tachometer	**1083.00**
CTA4101D	24 Vdc	Transistor	yes	multi-function Timer-Counter-Tachometer	**1184.00**

Electromechanical timing devices *(motorised)*

Multi-range motorised timers 6/60sec - 6/60min - 6/60hrs *(on one timer)*

1400/704/B6

S45/604/B6	surface DIN rail mount		1x instantaneous + 1x delay multi-range timer	**2243.00**
S48/704/B6	panel mount	48 mm²	1x inst + 1x delay multi-range timer	**2153.00**
1400/704/B6	panel mount	72 mm²	1x inst + 1x delay multi-range timer	**2577.00**
AZ58	reverse *(rear connected)* screw terminal socket		for S48/1400 timers	**65.00**
L48P8	in-line *(cord-end)* 8 pin socket		for S48/1400 timers	**98.00**

Programmable cam timers 15A SPDT output per cam *(micrometer screw adjustment)*

Series 6000 economic programmable cam timers

- 15A 250Vac SPDT output per cam
- Precision micrometer screw adjustment
- Std cycle times: 3-6-12-30 secs 1-2-3-6-12-30 mins 1-2-3-6-12-24 hrs

1400/704/B6

6002	2 cam	economical programmable cam timer	**813.00**
6004	4 cam	economical programmable cam timer	**989.00**
6006	6 cam	economical programmable cam timer	**1215.00**
6008	8 cam	economical programmable cam timer	**1424.00**
6010	10 cam	economical programmable cam timer	**1602.00**
6012	12 cam	economical programmable cam timer	**1790.00**

Series 3000 industrial programmable cam timers

- Std cycles: 6-12--24-60 secs 2-4-6-12-24-60 mins 2-4-6-12-24-48 hrs
- 15A 250Vac SPDT output per cam

3008.V3

3002.V3	2 cam	industrial programmable cam timer	**2266.00**
3004.V3	4 cam	industrial programmable cam timer	**2450.00**
3006.V3	6 cam	industrial programmable cam timer	**2705.00**
3008.V3	8 cam	industrial programmable cam timer	**3014.00**
3010.V3	10 cam	industrial programmable cam timer	**3311.00**
3012.V3	12 cam	industrial programmable cam timer	**3640.00**
3014.V3	14 cam	industrial programmable cam timer	**3803.00**
3016.V3	16 cam	industrial programmable cam timer	**4064.00**
3018.V3	18 cam	industrial programmable cam timer	**4366.00**
3020.V3	20 cam	industrial programmable cam timer	**4663.00**
3102.V4R	2 cam	timer with DC drive and 1turn potentiometer driver	**2266.00**

Extra charges (for series 3000)

M59	bi-directional AC motor	*(fitted to series 3000 timer)*	**1961.00**
M70	DC motor 12 or 24 V	*(fitted to series 3000 timer)*	**238.00**
M48	separate 220Vac single direction motor only		**282.00**
AT03	separate geared AC single direction motor only		**728.00**
KW3A-16Z0B	spare micro switches		**24.00**

DTD4848R0

DTA4848R0

DTA4896R0

DTA7272R0

DTB4824RR

DTC1000

DTC2000

Temperature controllers

- Universal sensor inputs: Thermocouple: type (K-J-T-E-N-R-S-B-L-U-TxxK)
  platinum RTD: PT100, JPT100
  Analog: 0~5V, 0~10V, 0~20mA, 4~20mA, 0~50mV
- Outputs: relay / voltage pulse (14Vdc) / current (DC 4-20mA) / linear voltage(0-10V)

type	panel size (mm) W x H	description	output 1	output 2	price
DTD series "economical" temperature controller		*100-240Vac 50/60Hz*		*(IP56)*	
• PID, programmable PID, ON/OFF, Manual control modes • 1 alarm output with 8 alarm modes					
DTD4848R0	48 x 48	econo temperature controller	–	relay	**798.00**
DTD4848V0	48 x 48	econo temperature controller	–	14Vdc	**798.00**
DTD4896R0	48 x 96	econo temperature controller	–	relay	**865.00**
DTA series "standard" temperature controller		*100-240Vac 50/60Hz*		*(IP56)*	
• PID, ON/OFF, manual control • PID parameter Auto-Tuning					
DTA4848R0	48 x 48	standard temperature controller	–	relay	**965.00**
DTA4848V0	48 x 48	standard temperature controller	–	14Vdc	**965.00**
DTA4848C0	48 x 48	standard temperature controller	–	4~20mA	**965.00**
DTA4896R0	48 x 96	standard temperature controller	–	relay	**1049.00**
DTA9648R0	96 x 48	standard temperature controller	–	relay	**1049.00**
DTA7272R0	72 x 72	standard temperature controller	–	relay	**1049.00**
DTA9696R0	96 x 96	standard temperature controller	–	relay	**1171.00**
DTB series "advanced" temperature controller		*100-240Vac 50/60Hz*		*(IP56)*	
• Two groups of outputs to auto-tune 2 groups of PID parameters • Sampling rate: thermocouple 0.15 sec, platinum RTD 0.4 seconds • 3 groups of alarm outputs • Built-in dual loop output control for heating and cooling • Built-in RS-485 communication interface (MODBUS ASCII/RTU)					
DTB4824RR	48 x 24	advanced temperature controller	relay	relay	**1100.00**
DTB4848RR	48 x 48	advanced temperature controller	relay	relay	**1343.00**
DTB4848VR	48 x 48	advanced temperature controller	14Vdc	relay	**1343.00**
DTB4848CR	48 x 48	advanced temperature controller	4-20mA	relay	**1343.00**
DTB4848LR	48 x 48	advanced temperature controller	0~5, 0~10V	relay	**1343.00**
DTB4896RR	48 x 96	advanced temperature controller	relay	relay	**1465.00**
DTB4896VR	48 x 96	advanced temperature controller	14Vdc	relay	**1465.00**
DTB4896CR	48 x 96	advanced temperature controller	4~20mA	relay	**1465.00**
DTB9696RR	96 x 96	advanced temperature controller	relay	relay	**1586.00**
DTB9696VR	96 x 96	advanced temperature controller	14Vdc	relay	**1586.00**
DTB9696CR	96 x 96	advanced temperature controller	4~20mA	relay	**1586.00**
DTB9696LR	96 x 96	advanced temperature controller	0~5, 0~10V	relay	**1586.00**
DTB4848RRE*	48 x 48	event input with 2 setpoints	relay	relay	**1385.00**
DTB4896RRE*	48 x 96	event input with 2 setpoints	relay	relay	**1511.00**
* *Event function, permits switching between 2 different temperature set points any combination of above outputs available on request*					
DTC series "modular" temperature controller 24Vdc					
DTC features modular, wire-saving structure able to monitor many temperature points with parallel modular extensions, providing user configurable outputs according to actual requirements. • PID, programmable PID, ON/OFF, Manual control • PID control function permits set up of up to 64 sets of temperature and control time • Adopts dual-loop output control *(able to execute heating and cooling simultaneously)* • Analog inputs: : 0~5V, 0~10V, 0~20mA, 4~20mA, 0~50mA • Built-in RS-485 communication interface MODBUS ASCII/RTU *(2.400 ~ 38.400bps)*					
DTC1000R	25.2 x 90	main unit temperature controller	relay	relay	**924.00**
DTC1000C	25.2 x 90	main unit temperature controller	4~20mA	relay	**924.00**
DTC2000R	25.2 x 90	extension unit temp controller	relay	relay	**924.00**
DTC2000C	25.2 x 90	extension unit temp controller	4~20mA	relay	**924.00**

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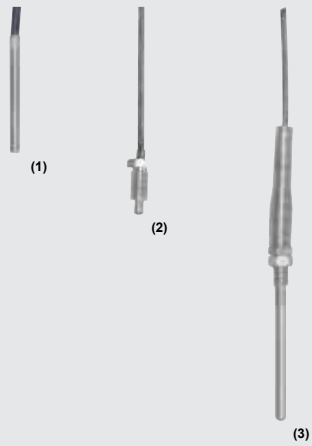
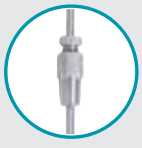




type	sensor type	fitting	type cable	type probe	description	tube dia.Ø	SUS304 length	price
Thermocouples and RTD sensors								
RTD (PT100) sensors			*(1.5m extended cable length)*					
• Tube: SUS304 material								
SJ-301/P505P	PT100	none	PVC	(1)	plain tube sensor	5	50 mm	**349.00**
SJ-301/P510T	PT100	none	teflon	(1)	plain tube sensor	5	100 mm	**395.00**
SJ-301/P520T	PT100	none	teflon	(1)	plain tube sensor	5	200 mm	**395.00**
SJ-302/P510T	PT100	M8 thread	teflon	(3)	threaded coupling	5	100 mm	**395.00**
SJ-302/P520T	PT100	M8 thread	teflon	(3)	threaded coupling	5	200 mm	**395.00**
SJ-305/P520T	PT100	1/4" PT	teflon	(4)	threaded adj. coupling	5	200 mm	**798.00**
KN-1/2PT-8-200-PT100	PT100	1/2" PT	terminal box	(6)	screw terminal box	8	200 mm	**931.00**
KN-1/2PT-8-300-PT100	PT100	1/2" PT	terminal box	(6)	screw terminal box	8	300 mm	**978.00**
Add "3" to end of part number for 3 meter cable length								**+90.00**
Type J sensors								
• Tube: SUS304 material								
SJ-100/J505B	type J	none	braid	(1)	plain tube sensor	5	50 mm	**115.00**
SJ-100/J510B	type J	none	braid	(1)	plain tube sensor	5	100 mm	**115.00**
SJ-100/J520B	type J	none	braid	(1)	plain tube sensor	5	200 mm	**115.00**
SJ-105/J510B	type J	M8 thread	braid	(3)	threaded coupling	5	100 mm	**115.00**
SJ-105/J520B	type J	M8 thread	braid	(3)	threaded coupling	5	200 mm	**115.00**
SJ-106/JM8B	type J	M8 screw-in	braid	(2)	screw-in sensor	M8	–	**77.00**
SJ-107/J5BB	type J	bayonet	braid	(5)	bayonet fixing sensor	5	–	**118.00**
KN-1/2PT-8-200-J	type J	1/2" PT	terminal box	(6)	screw terminal box	8	200 mm	**838.00**
KN-1/2PT-8-300-J	type J	1/2" PT	terminal box	(6)	screw terminal box	8	300 mm	**882.00**
Add "3" to end of part number for 3 meter cable length								**+41.00**
Type K sensors								
• Tube: SUS304 material								
SJ-100/K505B	type K	none	braid	(1)	plain tube sensor	5	50 mm	**103.00**
SJ-100/K510B	type K	none	braid	(1)	plain tube sensor	5	100 mm	**103.00**
SJ-100/K520B	type K	none	braid	(1)	plain tube sensor	5	200 mm	**103.00**
SJ-105/K510B	type K	M8 thread	braid	(3)	threaded coupling	5	100 mm	**103.00**
SJ-105/K520B	type K	M8 thread	braid	(3)	threaded coupling	5	200 mm	**103.00**
SJ-106/KM8B	type K	M8 screw-in	braid	(2)	screw-in sensor	M8	–	**77.00**
SJ-107/K5BB	type K	bayonet	braid	(5)	bayonet fixing sensor	5	–	**118.00**
KN-1/2PT-8-200-K	type K	1/2" PT	terminal box	(6)	screw terminal box	8	200 mm	**838.00**
KN-1/2PT-8-300-K	type K	1/2" PT	terminal box	(6)	screw terminal box	8	300 mm	**882.00**
Add "3" to end of part number for 3 meter cable length								**+41.00**
Thermocouple wire								
RTD/T19W	PT100	teflon coated wire 19/0.13RTD-AFF-3C					per meter	**63.00**
TC-IC-H/S	type J	type J steel braided covered thermocouple wire					per meter	**29.00**
TC-CA-H/S	type K	type K steel braided covered thermocouple wire					per meter	**29.00**
Connectors								
M-7-J	type J	male	thermocouple connector		plug		black	**104.00**
F-7-J	type J	female	thermocouple connector		socket		black	**108.00**
M-7-K	type K	male	thermocouple connector		plug		yellow	**104.00**
F-7-K	type K	female	thermocouple connector		socket		yellow	**108.00**
AC05-1/2	threaded sliding coupling for probe			1/2" PT	ID dia	5	–	**404.00**
AC05-1/4	threaded sliding coupling for probe			1/4" PT	ID dia	5	–	**280.00**

603 100

Compact (6.2 mm wide) DIN rail mountable converters for precise conversion of signals generated by field sensors and transmitters to standard 4-20mA current signals providing two way isolation. The converted output interfaces to PLCs, RTUs, analog displays or recorders.

- Dip switch configurable input ranges
- 2-way, 1500V RMS isolation
- High precision conversion
- Wide supply voltage range 9...30Vdc (603 300 II..30Vdc)
- Wide operating temperature range -20ºC...+65ºC
- Housing width or only 6.2 mm
- Overvoltage and reverse polarity protection

type	input	range	output	description	price
Signal converters					
Signal converters *(loop powered isolating amplifier)*					

603 800

- Configurable input – 0-20mA, 4-20mA, 0-10V, 2-10V, 0-5V, 1-5V, 0-1V, 0.2-1V
- Configurable via easily accessable DIP switches
- Maximum input signal 30Vdc or 50 m A DC
- Maximum output signal 21mA

603 100	configurable	–	4-20mA DC	signal converter	**2528.00**
603 300	configurable	–	configurable*	signal converter	**2808.00**

* *Configurable output 0-5V,0-10V,0-20mA,4-20mA*

Temperature transducers

PT100 *(2 or 3 wire connection)* converters

603 700	Pt100	-200ºC...+800ºC	4-20mA DC	temperature transducer	**2528.00**
603 800	Pt100	-200ºC...+800ºC	configurable*	temperature transducer	**2808.00**

* *Configurable output 0-5V,0-10V,0-20mA,4-20mA*

603 500

Thermocouple converters

603 400	type J,K,E,R	-200ºC...+1750ºC	4-20mA DC	temperature transducer	**2528.00**
603 500	type J,K,E,R	-200ºC...+1750ºC	configurable*	temperature transducer	**2808.00**

* *Configurable output 0-5V,0-10V,0-20mA,4-20mA*

J:	-200ºC...+1200ºC configurable
K:	-200ºC...+1250ºC configurable
E:	-200ºC...+1000ºC configurable
R:	- 50ºC...+1750ºC configurable

604 000

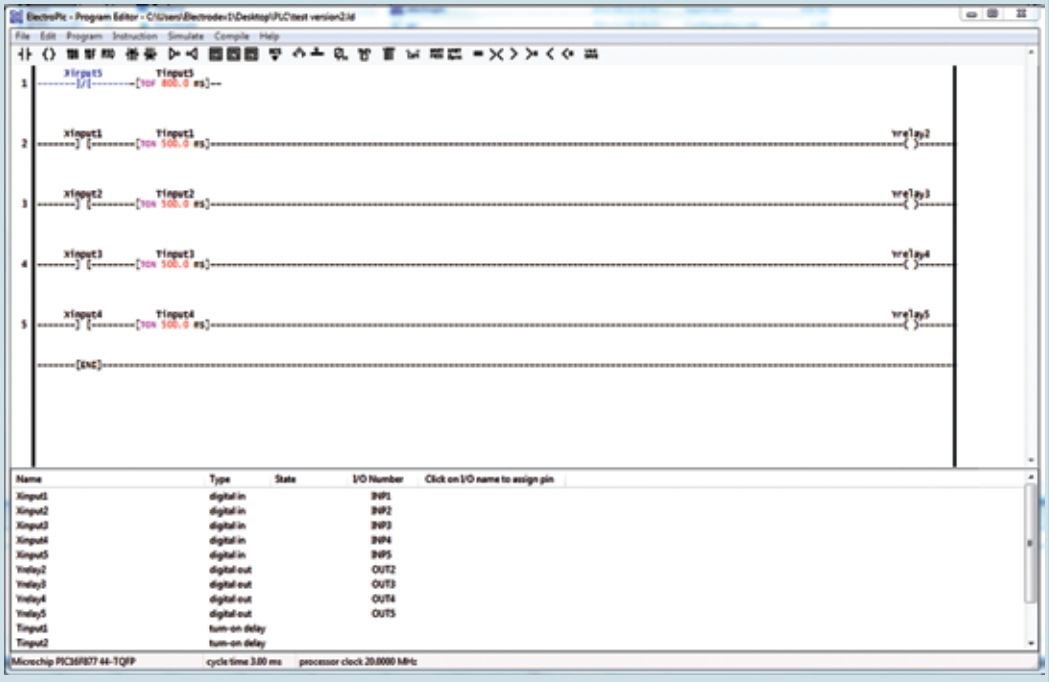
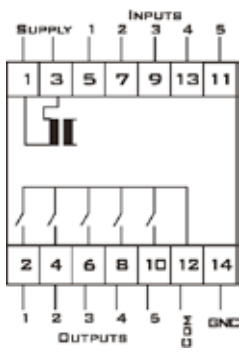
Frequency converter *(tachometer)*

- Selectable input: 1) Namur sensor 2) Dry contact
- Selectable range: Hi : 0…20kHz Lo : 0…40kHz

603 900	selectable	selectable	4-20mA DC	frequency converter	**3401.00**
604 000	selectable	selectable	configurable*	frequency converter	**3711.00**

* *Configurable input and output (3 port isolation) 0-5V,0-10V,0-20mA,4-20mA*

Above prices do not include VAT. E&OE

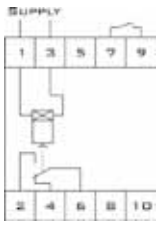
Function	**Programmable Logic Controller**
Model	**DPLC**
Description of operation	Easily programmable PLC for multiple timer replacement and more complex control. Supplied with MS-Windows ladder software for programming. All five inputs are isolated. Relay output. 
Standards **Voltages**	AC: 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48V ±15%
Galvanic isolation	5 inputs optoisolated , 5 relay outputs 2kV
General information	Ladder software supplied with unit includes USB type cable for programming. Inputs must be commoned to pin 14. LED indication for inputs, outputs and supply ON. Reset button on front panel. Commands include timers, counters, etc
Standard voltages	AC: 12,24,48,110,230,400V +/-5% DC: 12,24,48 +/-15%
Contact rating	6A 250Vac
Consumption	AC: 3.5VA DC: 280mA
Mechanical life	30 million operations
Ambient limits	-20 + 60ºC
Dimensions	(H) 92 mm x (D) 64 mm x (W) 53.25 mm (3 modules wide)
Connection diagram	
Price	**1326.00**

Multi-range / Multi-function

Eight time ranges: Eight functions:

1. 6 sec
2. 60 sec
3. 6 min
4. 60 min
5. 6 hrs
6. 60 hrs
7. Relay ON
8. Relay OFF

1. On-delay
2. Interval
3. Equal repeating
4. Pulse controlled off delay
5. Pulse controlled interval
6. Step relay
7. Pulse generator
8. On/off delay

Function	**Multi-function, Multi-range**	
Model	**DMFT**	**DMFT/V** *(multi-voltage 12-260Vac)*
Description of operation	**1. On-delay** Application of supply starts the pre-set time period thereafter the relay operates and only resets on removal of supply **2. Interval** Relay operates on applying supply voltage and resets after lapse of pre-set time period **3. Equal repeating** Applying supply operates relay and the pre-set "on" time period begins. After lapse of pre-set time period the relay resets for the same period. This sequence continues with equal "on" and "off" time cycles until removal of supply **4. Pulse controlled off delay** With supply applied, relay operates on closure of trigger contact. Timing only begins on release of trigger contact. Relay resets on lapse of pre-set time period or on removal of supply. If trigger contact is closed during a timing cycle, the relay stays on and a new timing cycle begins on release of the trigger contact **5. Pulse controlled interval** With supply applied relay operates on closure of trigger contact for the pre-set time period, whereafter the relay resets. If the trigger contact is closed before completion of time period, the device continues timing, whereafter the device resets **6. Step relay (bi-stable)** With supply applied relay operates on closure of trigger contact. The relay will only release when trigger contact is released and then re-applied **7. Pulse generator** Pre-set time period begins on applying supply. On lapse of the pre-set time period the relay operates for 0.5 sec whereafter the relay resets again for the pre-set time period. This sequence continues until removal of supply **8. On / off delay** With supply applied closure of trigger contact starts the pre-set time period, whereafter the relay operates. On release of the trigger contact the pre-set time period begins, whereafter the relay resets.	
Galvanic insulation	110, 230, 400V are equipped with internal transformer voltage (test volts: 2kV)	none
Range accuracy	±0.5%	±0.5%
Repeat accuracy	±0.2%	±0.2%
Time adjustment	via dedicated calibrated front knob (scale accuracy: ±5%)	via dedicated calibrated front knob (scale accuracy: ±5%)
Standard voltages	AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48, ±15%	12-260Vac/dc
Contact rating	10A 250Vac	10A 250Vac
Consumption	AC: ±2.4 VA DC: 100 mA	AC: ±2.4 VA DC: 100 mA
Reset time	0.5 sec (500 mSec)	0.5 sec (500 mSec)
Insulation	4kV between supply / output and adjacent contacts 1kV between open contacts.	none
Mechanical life	30 million operations	30 million operations
Ambient limits	(operating) -20 + 60°C	(operating) -20 + 60°C
Dimensions	(H) 92 mm x (D) 64 mm (W) 35.5 mm (2 modules wide)	(H) 92 mm x (D) 64 mm (W) 35.5 mm (2 modules wide)
Connection diagram		
Price	**483.00**	**565.00**

Above prices do not include VAT. E&OE

Delay on de-energisation	Unequal repeating timer	Star delta timer	Defrost timer	Multi start attempt
DOD	**DUR**	**DSD**	**DDT**	**DMSA**

DOD

On application of supply the relay operates. On removal of supply the pre-set time period begins. On lapse of the pre-set time period the relay releases. If supply is re-applied during the time period (before relay releases) the time period is reset and the relay remains on.

Note:
DOD should not be operated by pulses shorter than 30s. The supply should be applied for al least 30% of the time period. For these purposes the relay DMFT, operated by external contact function, should be used.

Time Ranges:
Selectable via front knobs

TIME RANGE A	
NO	
1	0.3 - 6s
2	0.9 - 30s
3	6 - 60s
4	0.9 - 6m
5	0.3 - 30m
6	6 - 60m

DUR

Asymmetrical Recycler "ON" time first. Timer with two independently adjustable time ranges one for "on" period and another for "off" period. On application of supply the relay operates and the pre-set "on" time period begins on lapse of the "on" period the relay releases for the seperately pre-set "off" time period. This cycle continues until supply is removed.

(By bridging terminals 7 and 9 the sequence can be reversed with the "off" time period first)

Selectable time range A + B
(via front mounted selector)

TIME RANGE A		
NO	ON (adj)	OFF (adj)
1	0.3 - 6s	0.3 - 6s
2	3 - 60s	3 - 60s
3	0.3 - 6m	0.3 - 6m
4	3 - 60m	3 - 60m
5	0.3 - 6s	0.3 - 60s
6	3 - 60s	3 - 6s
7	0.3 - 6s	0.3 - 60m
8	3 - 60m	3 - 6s

TIME RANGE B		
NO	ON (adj)	OFF (adj)
1	3 - 60s	3 - 6m
2	0.3 - 6m	0.3 - 60s
3	3 - 6m	3 - 60m
4	0.3 - 60m	0.3 - 6m
5	3 - 60m	3 - 6h
6	0.3 - 6h	0.3 - 60m
7	3 - 60s	3 - 6h
8	0.3 - 6h	0.3 - 60s

DSD

On application of supply the relay switches to the "star" position (contact 2) the pre-set "star" time period begins. on lapse of the set time period. The relay returns to a neutral position for the transition period (adjustable between 40 - 180ms) whereafter the relay switches to the delta position (contact 4) and remains there until supply is removed.

Time Range

Star: 30 (or) 60s (via front selector)

Transition: 40 - 180ms (adjustable)

DDT

Configurable for 4-hour (defrost cycle every 4 hours) or 8-hour cycles. On application of supply the pre-select (1-60min) defrost cycle begins. Thereafter the device switches to the cooling cycle activating the pre-set fan delay (1-60sec to prevent water splatter and warm air blowing into the room) whereafter the fan starts.

Bridging contacts 7 and 9 changes to cooling cycle. ideal for testing purposes or for cutting defrost cycle short if controlled by thermostat.

Time Ranges

Cycle: 4hr (or) 8hr
(via front mounted selector)

Defrost: 3-60min

Fan: 3-60sec

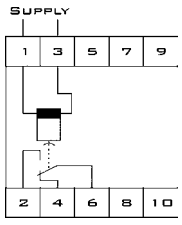
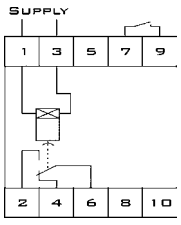
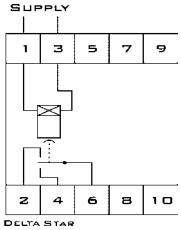
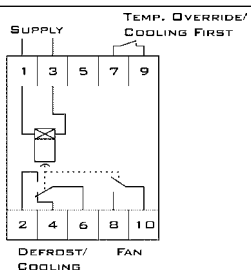
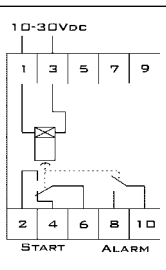
DMSA

Multi start attempt unit can be selected to start 3-8 times before energizing the alarm relay. The unit can be supplied with voltages ranging from 10-30Vdc. Start and stop time can be adjusted from 1-30sec.

Time Range

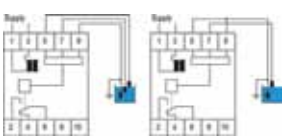
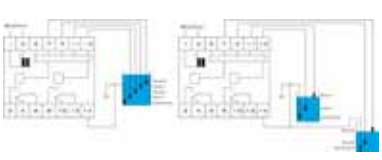
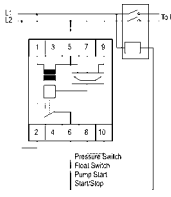
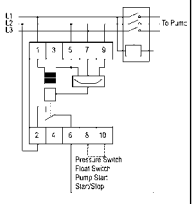
Star: 0 - 30sec

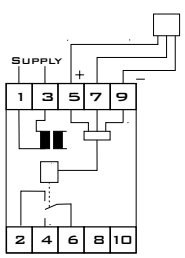
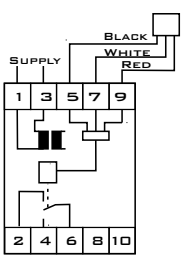
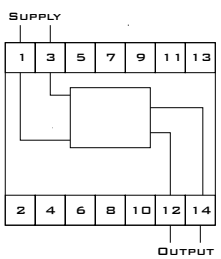
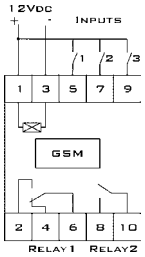
Transition: 0 - 30sec (pause)

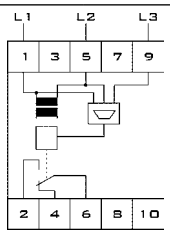
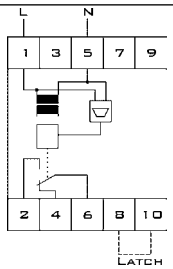
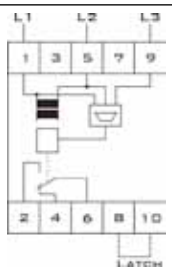
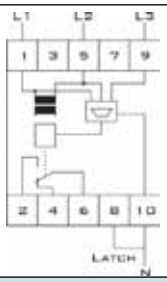
110, 230, 400V are equipped with internal transformer voltage (test volts: 2kV)				
±0.5%				
±0.2%				
via dedicated calibrated front knob (scale accuracy: ±5%)				
AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48, ±15%				10-30Vdc
6A 250Vac	10A 250Vac	6A 250Vac	6A 250Vac	6A 250Vac
AC: ±2.4 VA DC: 100 mA				100 mA
0.5 sec (500 mSec)				
4kV between supply / output and adjacent contacts 1kV between open contacts.				N/A
30 million operations				
(operating) -20 + 60°C				
(H) 92 mm x (D) 64 mm (W) 35.5 mm (2 modules wide)				
				
466.00	**483.00**	**438.00**	**502.00**	**593.00**

Function	Two level liquid level	Four probe liquid level	Pump protection relay	
Model	**DLL**	**DLL4**	**DPP1 (single)**	**DPP3 (three phase)**
Description of operation	**1. Emptying** The relay operates when the liquid reaches the MAX electrode (contact 7), and releases when the liquid is no longer in contact with the MIN electrode (contact 9). Contact 10 must be connect to the container (if conductive) or a seperate additional electrode should be used. **2. Filling** The relay releases when the liquid reaches the MAX electrode (contact 7) and operates when the liquid is no longer in contact with the min electrode (contact 9). Contact 10 must be connect to the container (if conductive) or a seperate additional electrode should be used. **Single level** The relay can also be used for single level control high or low by only connecting one level electrode.	**1. Emptying with Alarm** Relay1 operates when liquid reaches the MAX1 electrode (contact 7) if liquid continues to fill to the MAX 2 electrode level relay 2 (alarm) reset when the liquid drops to below the MIN 1 electrode (contact 11) relay 1 resets. If level continues to drop to below MIN 2 level relay 2 (alarm) will reset. **2. Filling with Alarm** Relay1 releases when liquid reaches the MAX1 electrode (contact 7) if liquid continues to fill to the MAX 2 electrode level relay 2 (alarm) reset when the liquid drops to below the MIN 1 electrode (contact 11) relay 1 operates. If level continues to drop to below the MIN 2 level electrode relay 2 (alarm) resets. **3. Emptying with pump priority** Relay1 operates when liquid levels reaches the MAX1 electrode (contact 7) relay 1 releases when level drops to below MIN 1 electrode (contact 11). If the level reaches MAX 2 electrode, relay 2 operates and remains energised until level drops to below MIN 2 electrode, whereafter relay 2 releases. This way the stand-by pump is activated, emptying the tank faster. **4. Filling with pump priority** Relay1 releases when liquid level reaches the MAX1 electrode (contact 7) relay 1 operates when level drops below MIN 1 electrode (contact 11). If the level drops below MIN 2 electrode (contact 13), relay 2 operates and remains energised until MAX 2 electrode is reached, whereafter relay 2 releases. This way the stand-by pump is activated, filling the tank faster. **5. Container filling and well draining with alarm** Relay1 operates when liquid level reaches MAX2 in the well. Relay 1 releases when level reaches MAX 1 in the container or MIN 2 in the well relay 2 (alarm) will release if level is below MIN 1 (in container) and MIN 2 (in well) **6. Electrode test** All indicators are on if the (contact 14 and contact 13) is in good contact with liquid and the liquid is sufficiently conductive. No LED indicates that the poor contact (resistance higher than 80kohm) **Time delay:** 1 - 10sec (adjustable) response delay is incorporated.	The unit monitors the following parameters and responds accordingly: **Voltage sensing** The relay releases if the supply voltage exceeds or falls below 15% of the set limit stored during calibration. If the voltage returns to within 15% of the set value the relay will automatically operate, starting the pump. **Phase Failure / Sequence** If there is a loss of any phases supplied to the unit the relay release. If any two phases are reversed the relay will release. The relay will automatically operate if the sequence is restored or the phase loss is corrected. **Overload sensing** If the current exceeds the set limit stored during calibration the relay will release after a one second delay. The relay will restart after a 10 second pause. If an over current condition is detected three consecutive times the unit will trip permanently until the power is removed and reapplied. **Underload sensing** The unit will detect a loss of load but detecting the increase in angular lag between the voltage and the current. The underload will release the relay after a 10 seconds delay. The relay will remain off for the recovery time, after which the unit will restart the pump. The unit can be calibrated from an un-calibrated state (all LED flashing) by pressing the front cover 'SET' button. The unit can be reset (not re-calibrated) from a latched fault state by pressing the 'SET' button. This can only be done three times in 15 minutes. This limit on restarts applies to non-latching faults. To re-calibrate the unit, the 'SET' button has to be press when the supply is applied to the unit until the POWER LED stops flashing.	

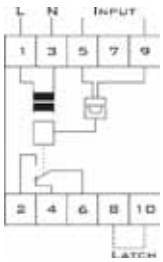
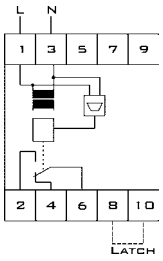
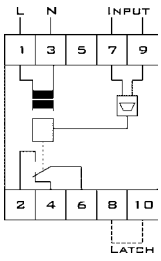
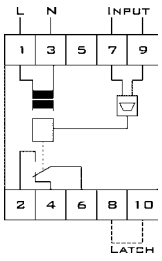
	POWER LED	STATUS LED	RELAY LED
Over voltage	flashing	on	off
Under voltage	on	flashing	off
Over current	flashing	off	off
Under current	off	flashing	off
Phase reversal	flashing	flashing	off
Contact 8 & 9 open	on	off	off
Startup delay	on	off	flashing
Pump running ok	on	off	on
Uncalibrated	flashing	flashing	flashing

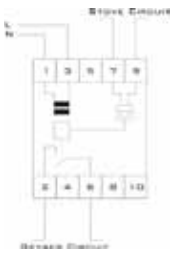
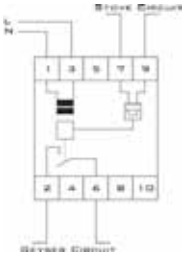
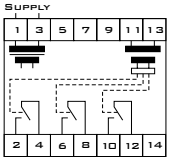
Galvanic insulation	110, 230, 400V are equipped with internal transformer voltage. (test volts: 2kV)			
Range accuracy	±0.5%			
Repeat accuracy	±0.2%			
Time adjustment	via dedicated calibrated front knob (scale accuracy: ±5%)			
Standard voltages	AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48, ±15%			
Contact rating	10A 250Vac		16A 250Vac	
Consumption	AC: ±2.4 VA DC: 100 mA			
Reset time	0.5 sec (500 mSec)			
Insulation	4kV between supply / output and adjacent contacts 1kV between open contacts.			
Mechanical life	30 million operations			
Ambient limits	(operating) -20 + 60°C			
Dimensions	(H) 92 mm x (D) 64 mm (W) 35.5 mm (2 modules wide)	(H) 92 mm x (D) 64 mm (W) 53.5 mm (3 modules wide)		
Connection diagram				
Price	**429.00**	**664.00**	**570.00**	**631.00**

Tachometer	Temperature controller	Power supply	GSM controller
DTM	**DTC**	**DPSU**	**DGSM**
On the unit over or under speed detection can be selected. While the speed remains below the set speed (over speed) or above (under speed) the relay will remain energised. The unit senses speed with a standard PNP 3 wire sensor. Four ranges can be selected : **Speed Range** 1 – 10 Rpm 10-100 Rpm 100-1000 Rpm 100-1000 Rpm 1000-10000 Rpm	The unit interfaces with our TP1 probe. The unit can be set for over or under temperature where the relay de-energises when the temperature rises above (over temp.) or fall below (under temperature) the set limit. Hysteresis 5-50%. **Ranges :** -20 - +80 degrees +10 – +50 degrees -10 - +10 degrees 0 - +80 degrees	Provides a regulated DC output from an AC input source (24VA) 30 VA output, 9/12/24	When the power supply is applied and a 20 second startup delay elapses the unit sends a 'Power On' SMS to the saved GSM telephone number. Four numbers for SMSes can be programmed into the unit by sending 'Save' all etc to the unit from that phone. Both relays can be controlled by sending the following SMSs to the unit **SMS Commands** **PLEASE NOTE:** **First letter of every word CAPITALIZED** xxx... is user input (max 12 letters including spaces) All On – Energizes all outputs(2&6,8&10) All Off – De-Energises all outputs Out1 On – Energizes output 1 (2&6) Out1 On – De-Energises output 1(2&6) Out2 On – Energizes output 2 (2&10) Out2 On – De-Energises output 2 (2&6) Pulse1 – Pulse Output 1 for 0.5sec Pulse2 – Pulse Output 2 for 0.5sec Outputs – Queries Outputs (replies with status of outputs) Inputs – Queries Inputs (replies with status of inputs) Airtime – Replies with remaining air time (Error if not "pay as you go") I1on xxx... – Change input 1 ON text I1off xxx... – Change input 1 OFF text I2on xxx... – Change input 2 ON text I2off xxx... – Change input 2 OFF text I3on xxx... – Change input 3 ON text I3off xxx... – Change input 3 OFF text Save1 – Save number of current phone to position 1 of the DGSM Save2 – Save number of current phone to position 2 of the DGSM Save3 – Save number of current phone to position 3 of the DGSM Save4 – Save number of current phone to position 4 of the DGSM Delete1 – Delete number of current phone to position 1 of the DGSM Delete2 – Delete number of current phone to position 2 of the DGSM Delete3 – Delete number of current phone to position 3 of the DGSM Delete4 – Delete number of current phone to position 4 of the DGSM Telme1 – Activate Telemetry function 1 with number in international format (eg 27824508840) Telme1 – Deactivate Telemetry function 1 Telme2 – Activate Telemetry function 2 with number in international format (eg 27824508840) Telme2 – Deactivate Telemetry function 2 **The inputs can be queried by sending 'Inputs'. Antenna (part no: SXANTE) and SIM card to be bought separately.**
110, 230, 400V are equipped with internal transformer voltage (test volts: 2kV)			N/A
±0.5%			
±0.2%			
via dedicated calibrated front knob (scale accuracy: ±5%)			
AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48, ±15%		96-240Vac	12,24Vdc ±15%
10A 250Vac		N/A	6A 200V
AC: ±2.4 VA DC: 100 mA			2000mA
0.5 sec (500 mSec)			
2kV between supply / output and adjacent contacts 1kV between open contacts.			
30 million operations		N/A	
(operating) -20 + 60°C			
(H) 92 mm x (D) 64 mm (W) 35.5 mm (2 modules wide)			
			
502.00	**495.00**	**502.00**	**2589.00**

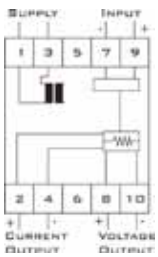
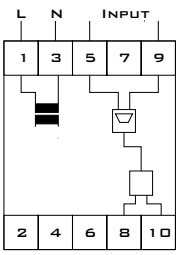
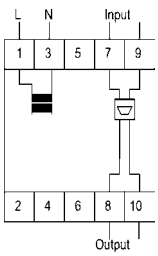
Function	Phase failure / reversal relay		Voltage window comparator + phase failure		
			(single phase)	(three phase)	(three phase + neutral)
Model	**DPF**	**DPF/K**	**DVW1**	**DVW3**	**DVW3N**
Description of operation	The relay will operate while all three phases are: • present • in the correct sequence • balanced If any of the above conditions change the relay will release until conditions are restored to normal again.		**Single phase** The relay operates as long as measured voltage remains within the pre-set "upper" and "lower" limits. If monitored voltage exceeds or falls below the pre-set limits, the relay will release. **Three phase** The relay operates as long as measured voltage remains within the pre-set "upper" and "lower" limits and all phases are present and in a sequence. If monitored voltage exceeds or falls below the pre-set limit or a phase is lost or out of sequence, the relay will release. With phase reversal both LEDs on. **Three phase + neutral** Same as DVW3 but also monitors the neutral phase **Delays:** can be activated via front selector **1) No Delay** Measurement starts immediately and relay responds directly (normal acquisition delays apply) **2) Startup delay 10 sec** On application of supply relay operates immediately power (LED flashes) monitoring only starts after 10 sec (power LED steadies) **3) 180 sec recovery delay** On application of supply relay does not operate (power LED flashes) for 180 sec whereafter relay operates (power LED steadies). If relay trips the 180 sec delay is activated (power LED flashes) before relay operates again. **4) Reaction delay 10 sec** Relay operates immediately and power LED flashes when power supply is applied. Measurement starts after 10 sec and power LED stops flashing. The relay will only release after a fault condition has been present longer than for 10 sec.		
Galvanic insulation	110, 230, 400V are equipped with internal transformer voltage (test volts: 2kV)				
Range accuracy	±0.5%				
Repeat accuracy	±0.2%				
Time adjustment	via dedicated calibrated front knob (scale accuracy: ±5%)				
Standard voltages	AC: 110, 230, 400, 525V ±15%				
Contact rating	10A 250Vac				
Consumption	AC: ±2.4 VA DC: 100 mA				
Reset time	0.5 sec (500 mSec)				
Insulation	2kV between supply / output and adjacent contacts 1kV between open contacts.				
Mechanical life	30 million operations				
Ambient limits	(operating) -20 + 60°C				
Dimensions	(H) 92 mm x (D) 64 mm (W) 35.5 mm (2 modules wide)				
Connection diagram					
Price	**389.00**	**429.00**	**490.00**	**495.00**	**490.00**

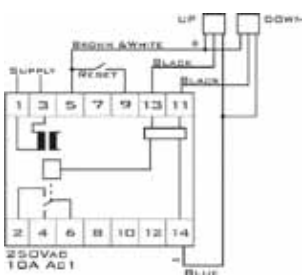
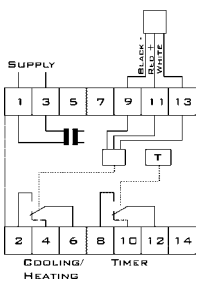
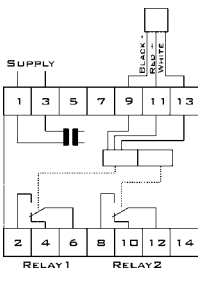
Above prices do not include VAT. E&OE

Voltage monitor	Frequency monitor	Current window comparator	Current monitor
DVM	**DFM**	**DCW / DCW15**	**DCM / DCM15**
Monitors a seperate voltage than supply configurable for 'over" or "under" voltage monitoring via front mounted selector. Over voltage The relay operates as long as monitored voltage remains below the pre-set limit. If the limit is exceeded the relay releases and will only operate again when monitored voltage exceeds the pre-set hysteresis percentage 5-50%. (Difference between trip and recovery level.) Under voltage The relay operates as long as monitored voltage remains above the pre-set limit. If the voltage falls below the limit, the relay releases and will only operate agian when monitored voltage exceeds the pre-set hysteresis percentage 5-50%. (Difference between trip and recovery level.) Delays: can be activated via front selector 1) No Delay Measurement start immediately and relay responds directly (normal acquisition delays apply) 2) Startup delay 10sec On application of supply relay operates immediately (LED flashes) monitoring only starts after 10 sec (power LED steadies) 3) 180 sec Recovery delay On application of supply relay does not operate (power LED flashes) for 180sec whereafter relay operates (power LED steadies). If relay trips the 180sec delay is activated (power LED flashes) before relay operates again. 4) Reaction delay 10sec Relay operates immediately and power LED flashes when power supply is applied. Measurement starts after 10 sec and power LED stops flashing. The relay will only release after a fault condition has been presented for 10 sec. A latch facility can be enabled by bridging terminals 8 and 10	The relay operates as long as the measured frequency remains within the pre-set "upper" and "lower" limits. If monitored frequency exceeds the "upper" or fall below the lower limits the relay will release. Delays: can be activated via front selector 1) No Delay Measurement start immediately and relay responds directly (normal acquisition delays apply) 2) Startup delay 10sec On application of supply relay operates immediately (LED flashes) monitoring only starts after 10 sec (power LED steadies) 3) 180 sec Recovery delay On application of supply relay does not operate (power LED flashes) for 180sec whereafter relay operates (power LED steadies). If relay trips the 180sec delay is activated (power LED flashes) before relay operates again. 4) Reaction delay 10sec Relay operates immediately and power LED flashes when power supply is applied. Measurement starts after 10 sec and power LED stops flashing. The relay will only release after a fault condition has been presented for 10 sec. A latch facility can be enabled by bridging terminals 8 and 10	Directly interfaces with conventional CTs (5A secodary). The relay operates as long as the monitored current remains within the pre-set 'upper" and "lower" limits. If the monitored current exceeds or falls below the pre-set limits, the relay will release. DCW15 can monitor up to 15A directly. Delays: can be activated via front selector 1) No Delay Measurement start immediately and relay responds directly (normal acquisition delays apply) 2) Startup delay 10sec On application of supply relay operates immediately (LED flashes) monitoring only starts after 10 sec (power LED steadies) 3) 180 sec Recovery delay On application of supply relay does not operate (power LED flashes) for 180sec whereafter relay operates (power LED steadies). If relay trips the 180sec delay is activated (power LED flashes) before relay operates again. 4) Reaction delay 10sec Relay operates immediately and power LED flashes when power supply is applied. Measurement starts after 10 sec and power LED stops flashing. The relay will only release after a fault condition has been presented for 10 sec. A latch facility can be enabled by bridging terminals 8 and 10 5A/15ADC current also available	Directly interfaces with conventional CTs (5A secodary). Configurable for 'over" or "under" current monitoring via front mounted selector. DCM15 can monitor up to 15A directly. Over current The relay operates as long as monitored current remains below the pre-set limit. If the limit exceeded the relay releases and will only operate again when monitored current reduces by the pre-set hysteresis percentage 5-50%. (difference between trip and recovery level) Under current The relay operates as long as monitored current remains above the pre-set limit. If the current falls below the limit the relay releases and will only operate again when monitored current exceeds by the pre-set hysteresis percentage 5-50%. (difference between trip and recovery level) Delays: can be activated via front selector 1) No Delay Measurement start immediately and relay responds directly (normal acquisition delays apply) 2) Startup delay 10sec On application of supply relay operates immediately (LED flashes) monitoring only starts after 10 sec (power LED steadies) 3) 180 sec Recovery delay On application of supply relay does not operate (power LED flashes) for 180sec whereafter relay operates (power LED steadies). If relay trips the 180sec delay is activated (power LED flashes) before relay operates again. 4) Reaction delay 10sec Relay operates immediately and power LED flashes when power supply is applied. Measurement starts after 10 sec and power LED stops flashing. The relay will only release after a fault condition has been presented for 10 sec. A latch facility can be enabled by bridging terminals 8 and 10
110, 230, 400V are equipped with internal transformer voltage (test volts: 2kV)			
±0.5%			
±0.2%			
via dedicated calibrated front knob (scale accuracy: ±5%)			
AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48, ±15%			
10A 250Vac			
AC: ±2.4 VA DC: 100 mA			
0.5 sec (500 mSec)			
2kV between supply / output and adjacent contacts 1kV between open contacts.			
30 million operations			
(operating) -20 + 60°C			
(H) 92 mm x (D) 64 mm (W) 35.5 mm (2 modules wide)			
			
488.00	**502.00**	**565.00**	**565.00**

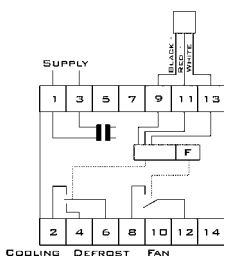
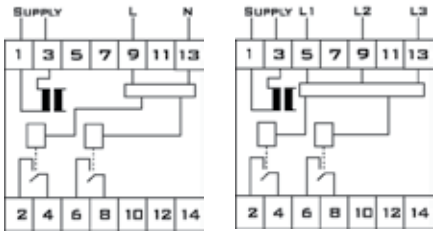
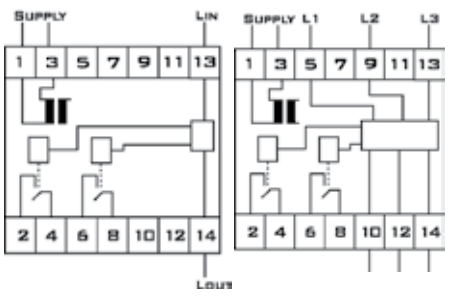
Function	Load shed relay with real-time clock	Load shed relay	Three circuit load shed relay
Model	**DRLS**	**DLS**	**DLS3**
Description of operation	The relay will remain off for 15 min on applying power to the unit. After which the relay energises. The input is monitored and will release the relay if the current exceeds 5A. . The relay will only operate again if the current remains below the limit for 15 min. The geyser will switch off in the pre-programmed peak time. This can be overridden by pressing and releasing the front panel button. The status LED will flash and the geyser will remain on for 1 hour. The geyser can be switched off by pressing the front panel button for more then 10s. The power light will start flashing and the relay will release. The unit can be switched to normal operation by pressing the front panel button again for 10s. **Current settings** 5A (via front mounted selector) Current over 16Amps on the sensing circuit requires a CT.	Designed to monitor current consumption and disconnect non-critical loads from the system. Idea for load-shedding in domestic applications where geysers can be disconnected when switching on the stove selectable current setting 5A (or) 10A. On applying supply, relay is operated as long as detected current is below pre-set limit 5A (or) 10A. If current exceeds the limit the relay will release disconnecting the circuit and only operate pre-set once sensed current drops below the set limit for 15 minutes. On start-up unit delays relay for 15 min. **Current settings** 5A (or) 10A (via front mounted selector) Current over 16Amps on the sensing circuit requires a CT.	**Step Function** The load shed relay continuously compares the input current to the set value. If the input current exceeds the set value relay 1 energises to disconnect the first circuit. If the overload is still present the next relay will be energised. The unit will attempt to reconnect removed circuits after 5min. If no overload is present all circuits will be re-connected. This enables circuits to be removed in a priority manner. **Cyclic Function** If a circuit is re-connected after the 5 min cycle time, and an overload remains the unit will remove the next circuit in a cyclic fashion. When a new overload condition is detected the next circuit in the cycle is removed. This enables circuits to be functional without priority.
Galvanic insulation	110, 230, 400V are equipped with internal transformer voltage (test volts: 2kV)		
Range accuracy	±0.5%		
Repeat accuracy	±0.2%		
Time adjustment	via dedicated calibrated front knob (scale accuracy: ±5%)		
Standard voltages	AC: 110,230,400,525V +/- 15%		
Contact rating		16A 250Vac	1 x 16A 2 x 6A
Consumption	AC: ±2.4 VA DC: 100 mA		
Reset time	0.5 sec (500 mSec)		
Insulation	4kV between supply / output and adjacent contacts 1kV between open contacts.		
Mechanical life	30 million operations		
Ambient limits	(operating) -20 + 60°C		
Connection diagram			
Price	**848.00**	**542.00**	**706.00**

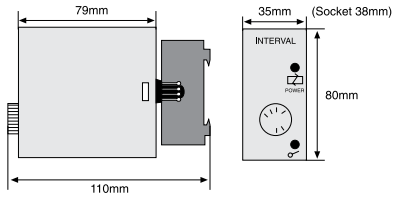
Above prices do not include VAT. E&OE

Function	Signal isolator	Voltage converter (non-isolated)	Current converter
Model	**DSI**	**DVC**	**DCC**
Description of operation	The SI120 is a signal isolator designed to eliminate potential ground loop problems prevalent in 4-20mA control loops. It can also be used in other applications where galvanic isolation is a requirement. The unit incorporates two isolated 24 Vdc power supplies for input and output loops allowing it to be used with mains and/or loop powered transmit and receive instruments without the need for additional power supplies. Both power supplies are current limited at 30mA. Isolation is achieved by the use of an opto-coupler current mirror circuit.	The unit accepts specified voltages and converts them (true RMS) into either current or voltage output such as 4- 20mA or 0-5Vdc	The unit accepts specified current direct or from a CT and converts (true RMS) them into either current or voltage output such as 4- 20mA or 0-5Vdc
Standard voltage	AC: 110,230,400, 525 Vac 50Hz		
Galvanic isolation	110,230,400 525V are equipped with internal transformers providing effective galvanic separation of the electronic circuitry from supply voltage (test volts: 2kV)		
Input signal options	1 = 0-10Vdc 5 = 0-5Vdc 4 = 4-20mA 0 = 0-20mA	eg: 0-600Vac or Vdc 0-230Vac or Vdc	0-5A 0-15A
Output signal options	4 = 4-20mA 5 = 1-5Vdc 0 = 0-20mA 1 = 0-10Vdc		
Extra	N/A		
Accuracy	Linear +/- 0.2%		
Consumption	+/- 3VA		
Ambient limits	(operating) -5 - + 60°C		
Type of duty	Continuous (100%)		
Response time	+/-0.5sec		
			
Price	**791.00**	**542.00**	**636.00**

Function	Digital counter/timer		Digital temperature controller with timer	Digital temperature controller
Model	**DDCT**	**DDCT/B**	**DDTCT**	**DDTC**
Description of operation	**Function 1:** Counter Can be set to count up and/or down. A pre-scaler can be selected The pulse length can be adjusted. The de-bounce time can be set to eliminate contact bounce on a mechanical switch. The counter can be manually reset with the reset input (pin 9) **Function 2:** Timer The timer can be set to count up or down. The pulse length can be set in the menu. The timer can be manually reset with the reset input (pin 9) **Function 3:** Timer with start/Stop The timer can be started and stopped by Input1 (pin 13). The timer will start timing when Input1 is activated and stop when it is activated again. **Function 4:** timer with timing on activation When Input1 is activated the timer starts timing and will stop if Input 1 is de-activated. Menu Diagram "SET" Button Momentarily Count / Time setpoint "SET" Button 4 seconds **/B** with backup for counter/timer 1- Counter / 2-Timer / 3-Timer / 4-Timer – / – / pulse start/stop / start/stop Debounce / Up/Down / Up/Down / Up/Down Pre-scalar / Pulse length / Pulse length / Pulse length Up/down / Range / Range / Range Pulse length / Show relay / Show relay / Show relay Show relay		**Temperature Controller** The temperature relay remains energized until the measured temperature is above the set point. If the temperature moves below the set point minus the hysteresis the relay energises and will only de-energise when the temperature moves above the set point. The hysteresis eliminates chattering off the contacts. **Timer** The Timing contact will close if the clock time, set in the advanced function falls between the two set times. The time clock has battery backup and will keep the time even after power is removed. Menu Diagram "SET" Button Momentarily Temperature setpoint "SET" Button 4 seconds Clock On Time 1 Off Time 1 On Time 2 Off Time 2 Over ride On Time Interfaces with TP1 probe	A trip point can be set for each of the two relays. Hysteresis for each trip points can be set. The two relay can be set independently for over or under operation. The maximum and minimum temperature for the set point adjustment can also be set. Menu Diagram "SET" Button Momentarily Temperature setpoint "SET" Button 4 seconds Function setting (for future use) Hysterisis 1 Hysterisis 2 Max temperature set point Min temperature set point Heating/Cooling 1 Heating/Cooling 2 Interfaces with TP1 probe
Galvanic insulation	110, 230, 400, 525V are equipped with internal transformer voltage (test volts:2k)			
Range accuracy	±0.2%			
Repeat accuracy	±0.2%			
Time adjustment	NA			
Standard voltages	AC: 110,230,400,525V +/- 15%			
Contact rating	10A		6A	6A
Consumption	AC: ±2.4 VA			
Reset time	0.5 sec (500 mSec)			
Insulation	4kV between supply / output and adjacent contacts 1kV between open contacts.			
Mechanical life	30 million operations			
Ambient limits	(operating) -20 + 60°C			
Connection diagram				
Price	**718.00**	**824.00**	**824.00**	**718.00**

Above prices do not include VAT. E&OE

Digital defrost timer	Digital voltage window comparator		Digital current window comparator	
DDDT	**DDVW1**	**DDVW3**	**DDCW1**	**DDCW3**
The unit controls the temperature by closing the cooling contact every time the meassued temperature rises above the pre-set level. The compressor will only operate after the set startup delay. The cooling contact will open if the temperature falls below the set point minus the hysteresis. The minimum on time for the compressor is set in the menu. The defrost cycle will start when the cycle time has completed and will end after the preset defrost time. Five fan functions can be selected: 1) Fan operates at the same time as the compressor 2) Fan operates at the same time as the compressor with a fan delay 3) Fan is off in the defrost cycle 4) Fan is off when both the defrost and compressor are off 5) Fan is on when power is applied and remains on If an error occurs on the sensing circuit the unit will continue to run in a error cycle set in the menu, which is a percentage of the cycle time. Interfaces with TP1 probe	**DDVW3** - The unit monitors voltage of all three phases and displays the results in a number of ways which can be set in the menu. **DDVW1** - The unit monitors single-phase voltage. Separate parameter can be set to trip the two internal relay. The unit has an auxiliary supply. Trip settings (press 'SET' button momentarily 1.Over Percentage (OP) 2.Under Percentage (UP) Function Settings (press 'SET' button for 10sec) 1.Relay 1 trip (R1) - 1 over voltage - 2 under voltage - 3 over and under voltage - 4 phase reversal 2.Relay 1 trip (R2) - 1 over voltage - 2 under voltage - 3 over and under voltage - 4 phase reversal 3.Hysteresis (Hy) 4.VT ratio (UT) 5.Startup Delay (Sd) 6.Off Delay (Od) 7.Latch (La)		**DDCW3** - The unit monitors current of all three phases and displays the results in a number of ways which can be set in the menu. **DDCW1** - The unit monitors single-phase current. Separate parameter can be set to trip the two internal relay. The unit has an auxiliary supply. Trip settings (press 'SET' button momentarily 1.Over Percentage (OP) 2.Under Percentage (UP) Function Settings (press 'SET' button for 10sec) 1.Relay 1 trip (R1) - 1 over current - 2 under current - 3 over and under current 2.Relay 1 trip (R2) - 1 over current - 2 under current - 3 over and under current 3.Hysteresis (Hy) 4.CT ratio (CT) 5.Startup Delay (Sd) 6.Off Delay (Od) 7.Latch (La)	
110, 230, 400, 525V are equipped with internal transformer voltage (test volts:2k)				
±0.2%				
±0.2%				
NA				
AC: 110,230,400,525V +/- 15%				
6A	6A		6A	
AC: ±2.4 VA				
0.5 sec (500 mSec)				
4kV between supply / output and adjacent contacts 1kV between open contacts.				
30 million operations				
(operating) -20 + 60°C				
				
848.00	**871.00**	**895.00**	**1069.00**	**1158.00**



multi-range / multi-function

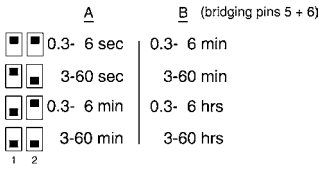
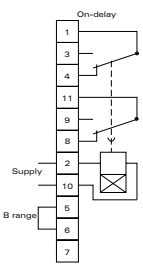
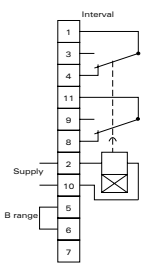
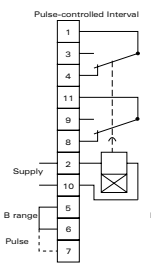
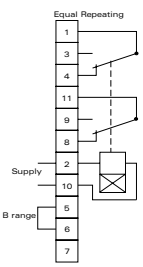
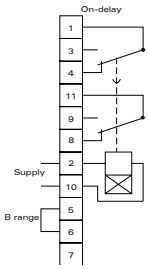
Four functions:

On-delay
Interval
Pulse controlled int.
Equal repeating

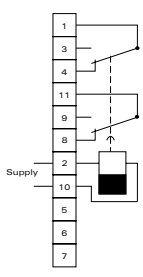
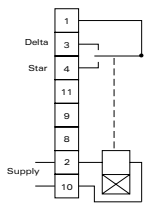
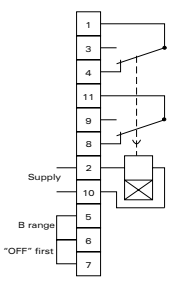
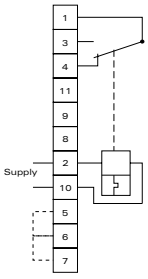
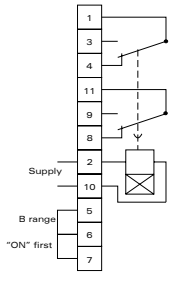
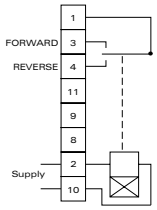
Six time ranges:

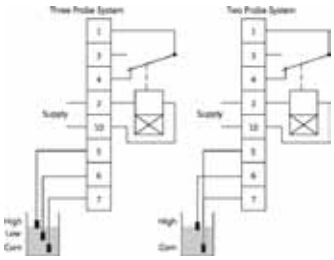
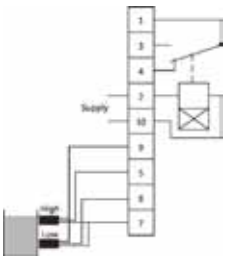
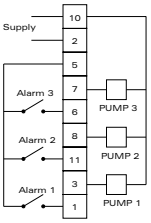
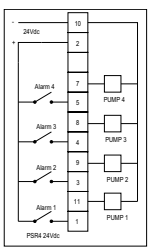
6 sec	60 sec
6 min	60 min
6 hr	60 hr

(pre-settable via rear mounted dip switch)

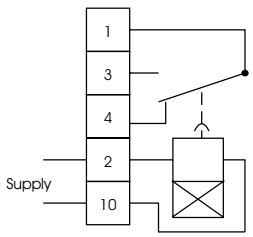
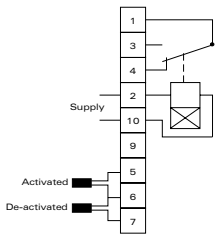
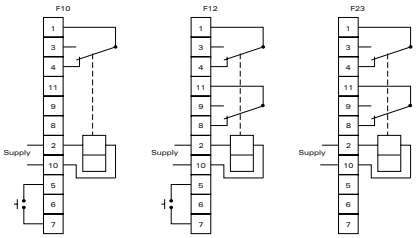
Function	On-delay	interval	interval (pulse controlled)	Equal repeating	Multi-range + instantaneous
					(Same as T2M)
Model	**T2M (DPDT)**				**T3M**
Description of operation	Applying supply activates timing circuit. Relay only energises on lapse of pre-set time period and remains energised until supply is removed.	Applying supply energises relay for pre-set time period. Whereafter the relay resets until supply is removed and then re-applied.	With permanent supply applied. Closing of contacts 6 + 7 energises the relay for the pre-set time period. Whereafter the relay resets until contacts 6 + 7 are closed again.	Applying supply activates the pre-set "OFF" time period whereafter an equal "ON" time begins. This cycle is repeated until supply is removed.	Same selection as with T2M but with one timed timed contact and one instantaneous contact.
Galvanic insulation	110, 230, 400V are equipped with internal transformer voltage (test volts: 2kV)				same as T2M
Range accuracy	±0.5%				±0.5%
Repeat accuracy	±0.2%				±0.2%
Time adjustment	via dedicated calibrated front knob (scale accuracy: ±5%)				same as T2M
Standard voltages	AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48, ±15%				same as T2M
Standard Time Ranges					Same as T2M
Contact rating	5A 250Vac				10A 250Vac
Consumption	AC: ±2.4 VA DC: 100 mA				AC:±2.4 VA DC: 100 MA
Connection diagram					
Price	**400.00**				**471.00**

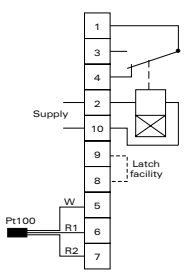
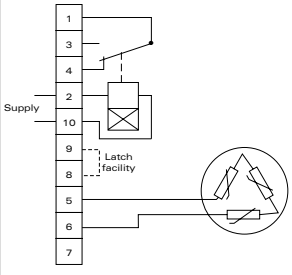
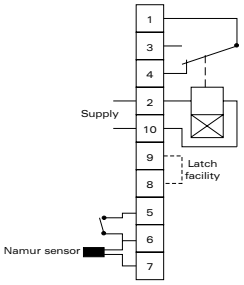
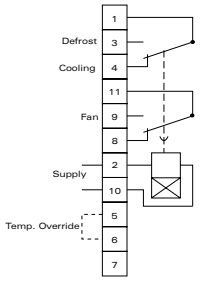
Above prices do not include VAT. E&OE

Delay on De-energisation		Star-delta	Unequal repeating (multi-range)	One-shot timer	Two-shot timer (multi-range)	Forward / reverse timer
delay off						
T2D	**T2D/B**	**TNE 3 (SPDT)**	**R2U**	**T1P (SPDT)**	**TP2**	**FRT1**
Applying supply energises relay. Upon disconnection of supply, relay remains energised for pre-set time period and then resets. Note: Relay must be energised for at least 50% of pre-set time range. T2D/B must be charged for 24 hours before first use. T2D should not be operated by pulses shorter then 30s + 30% of set time. For these purposes the PT11/PT13 should be used		On applying supply contact between 1 + 4 is made and pre-set "STAR" time period begins. On expiry of time period 1 + 4 opens and remains in a neutral position. 100mS later the "DELTA" connection is made between contacts 1 + 3. The relay remains in this position until supply is removed.	Applying supply activates the pre-set "ON" period, whereafter the separately pre-settable "OFF" time is activated. This cycle continues until supply is removed. Multi-range delay periods can be set via rear mounted dip switches for both "on" and "off" times. Bridge pins 6 + 7 for "off" period first.	Provides a 0.5 sec pulse when relay is energised and/or de-energised. Bridging pins 5 + 6 relay pulses on application of supply only. Bridging pins 6 + 7 relay pulses on disconnection of supply only. Available in 1 sec.	Applying supply activates the pre-set "OFF" time period whereafter the separately pre-settable "ON" time period begins. On expiry of the "ON" period the relay resets until supply is removed. Multi-range delay periods can be set via rear mounted dip switches.	Applying supply activates the pre-settable "reverse" time (Pins 1 and 4), whereafter the pre-settable "OFF" time is activated. Thereafter the preset 'FORWARD" time (Pins 1 and 3) is activated. The cycle REV-OFF is repeated until supply is removed.
110, 230, 400, 525V are equipped with internal transformer voltage (test volts: 2kV)						
±5%		±5%	±0.5%	±5%	±0.5%	±0.5%
±1%		±1%	±0.2%	±1%	±0.2%	±0.2%
via dedicated calibrated front knob (scale accuracy: ±5%)						
AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48, ±15%						
3 sec 10 sec 30 sec 60 sec 180 sec 380 sec	10 min 30 min 60 min 180 min	1 - 30 sec 1 - 60 sec 10 - 180 sec L.E.D indication of "STAR" and of "DELTA" condition	A: 0.3- 6 sec / 3-60 sec / 0.3- 6 min / 3-60 min; B: 0.3- 6 min / 3-60 min / 0.3- 6 hrs / 3-60 hrs; 1/3 2/4; 1 2 "on" time; 3 4 "off" time	0.5 sec	A: 0.3- 6 sec / 3-60 sec / 0.3- 6 min / 3-60 min; B: 0.3- 6 min / 3-60 min / 0.3- 6 hrs / 3-60 hrs; 1/3 2/4; 1 2 "on" time; 3 4 "off" time	to specification
5A 250Vac		10A 250Vac	5A 250Vac	10A 250Vac	5A 250Vac	10A 250Vac
AC: ±2.4 VA DC: 100 mA						
						
459.00	**506.00**	**349.00**	**422.00**	**349.00**	**422.00**	**424.00**

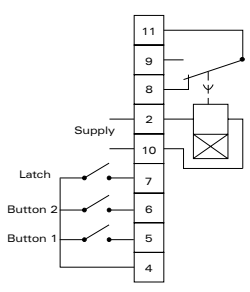
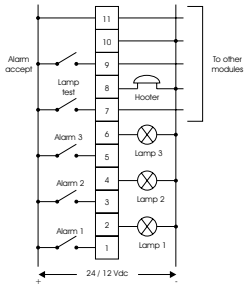
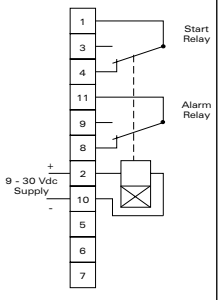
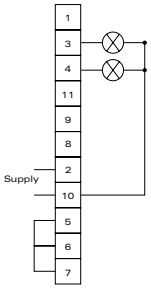
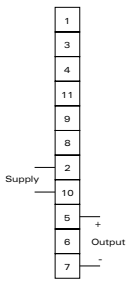
Function	Liquid level control	Capacitive level control	3 pump sequence relay	
Model	**LV1 (SPDT)**	**LVC1 (SPDT)**	**PSR1**	**PSR4**
Description of Operation	Failsafe control and monitoring of high and / or low levels of conductive liquids. Configurable for "filling" or "emptying" applications. With adjustable sensitivity. "HIGH" pins 7 + 5 "LOW" pins 7 + 6 FILLING DRAINING 1 2	Failsafe control and monitoring of high and / or low levels of solids, liquids or granules. Interfaces with standard DC capacitive proximity sensors or photo switches. (DC supply incorporated).	Pump sequence module designed to optimise wear on pumps, compressors or generators by alternating between 3 devices. 3 inputs are monitored and will switch one (or more) of three output relays sequentially depending on load requirements. The no. of outputs correspond to the no. of inputs, ensuring the load is equally divided between the three outputs.	
Standard voltages	AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48V ±15%			only 24Va
Galvanic isolation	110, 230, 400, 525V are equipped with internal transformer, providing effective galvanic separation of the electronic circuitry from supply voltage (test volts: 2kV)			
General information	configurable for charging or discharging via rear mounted dip switches providing failsafe control. Accessories: SN1 stainless steel single-line level probe	configurable for charging or discharging via rear mounted dip switches providing failsafe control. Accessories: NPN capacitive proximity switches	for spreading pump workload evenly between 3 pumps load dependent. 3/4	
Contact rating	10A 250Vac			
Consumption	AC: ±2.4 VA DC: ±100mA			
Technical information	sensitivity: adjustable 0-50K probe voltage: 4Vac	incorporated DC supply 12Vdc 30mA for stabdard DC proximity / photo switches	pump sequencing for optimal, even wear between motors	
Insulation	2kV between supply and output adjacent and adjacent contacts 1kV between open contacts			
Mechanical life	30 million operations			
Ambient limits	(operating) -20 + 60ºC			
Type of duty	continuous (100%)			
Response time	±0.5sec			
Connection diagram				
Price	**400.00**	**372.00**	**457.00**	**485.00**

Above prices do not include VAT. E&OE

Percentage Timer	Namur sensor relay	Flip flop relay		
PCT1	**M1S (SPDT)**	**F10 SPDT**	**F12 DPDT**	**F23 DPDT**
Applying supply activates the pre-set percentage “ON” time of the overall time range where after the pre-set percentage “OFF” time is activated. This cycle is repeated until the supply removed. If the unit is set to 30% of 60min the relay will energise for 18min and remain off for 42min. SCxx	The Namur relay converts the charging current of a sensor into a relay output. Ideal for intrinsically safe applications. Can be configured to energise when sensor is activated, providing fail-safe operation in all applications.	**F10:** Pulse controlled (with memory). With supply applied closure of cont. 5+7 energises the relay. The relay remains in the state even on removal of supply. Closure of contact 5+7 once again resets relay. **F12:** Pulse controlled (without memory) same as F10 but relay resets on removal of supply. **F23:** Mains controlled. Applying supply for 30sec or longer and then removing supply will change the relay state.		
110, 230, 400V are equipped with internal transformer voltage (test volts: 2kV)				
±0.5%				
±0.2%				
via dedicated calibrated front knob (scale accuracy: ±5%)				
AC: 110,230,400,525V +/- 15%				
16A 250Vac		8A 250Vac	8A 250Vac	8A 250Vac
AC: ±2.4 VA DC: 100 mA				
0.5 sec (500 mSec)				
4kV between supply / output and adjacent contacts1kV between open contacts.				
30 million operations				
(operating) -20 + 60°C				
				
422.00	**325.00**	**448.00**	**424.00**	**452.00**

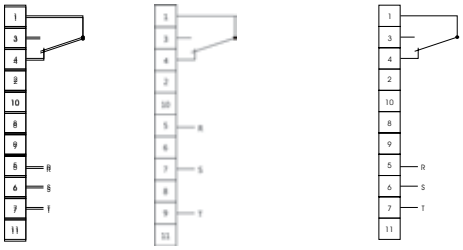
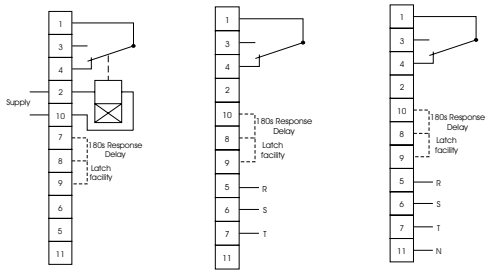
Function	temperature relay	thermistor relay	tachometer relay multi-range	defrost timer
Model	**T1R (SPDT)**	**TPR1/M**	**RRP1 (SPDT)**	**DEF1/F with fan delay**
Description of operation	Directly interface with conventional PT100 (3 wire) sensors, the relay energises and remains so until pre-set maximum temperature limit is reached. Whereupon the relay resets until the temperature drops below the hystaria. Can be configured for heating or cooling applications. Hysteresis 5-50%	Typically used for protection of AC and DC motor windings equipped with embeddded thermistors. Under normal conditions relay is energised, when one of the thermo-detectors reaches tripping temperature the relay is reset. The relay will energise again when temperature falls at least 5°C below trip value. A latch facility can be enabled by bridging pins 8 + 9. Reset is obtainable by front mounted membrane switch or N/C remote p/button. A front mounted test button is also incorporated.	Programmable for: "OVER" "UNDER" (1 2) speed detection. Relay remains energised for as long as detected speed remains within the pre-set limits. Relay resets if detected speed exceeds upper (overspeed) or drops below (underspeed) pre-set limit. Interfaces directly with Namur (2 wire) proximity or limit switches.	Selectable cycle times 4-6-8-12 hr. On energisation the (3-60min) "defrost" time begins whereafter the "cooling" cycle takes place. Bridging pins 5 + 6 overrides the defrost time, starting the cooling cycle first. The unit incorporates a 0.3-6min fan delay operating on initiation of every cooling cycle. LED indication of "cooling", "defrost" "fan on".
Standard voltages	AC: 12, 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48V ±15%			
Galvanic isolation	110, 220, 400, 525V are equipped with internal transformer, providing effective galvanic separation of the electronic circuitry from supply voltage (test volts: 2kV)			
General information	Selectable temperatures: -20°- 80°C 80°-180°C	Used for protection of motors with thermistor embedded into windings LED indication of "normal" and tripped condition P.T.C. voltage ≤2.5V TPR1/M has fault memory after power loss	Selectable speeds: 1-10 rpm 10-100 rpm 100-1000 rpm 1000-10.000 rpm (3 4)	cycle times 4 hour 6 hour 8 hour 12 hour Defrost 3-60min Fan 0.3-6min
Contact rating	10A 250Vac			
Consumption	AC: ±2.4 VA DC: ±100mA	AC: ±2.4 VA	AC: ±2.4 VA DC: ±100mA	AC: ±2.4 VA DC: ±100mA
Technical information	Interfaces with conventional 3 wire or 2 wire Pt100 temperature sensors	Number of thermistors to be connected are limited by the sum of resistance of all detectors in series not exceeding 1.5 kohm at 25°C	SELECTABLE: 10sec START-UP DELAY "ON" "OFF" (1 2)	SELECTABLE: 10sec START-UP DELAY "ON" "OFF" (1 2)
Connection diagram				
Price	**478.00**	**426.00**	**426.00**	**478.00**

Above prices do not include VAT. E&OE

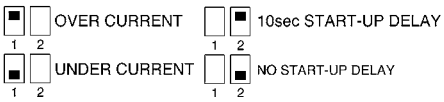
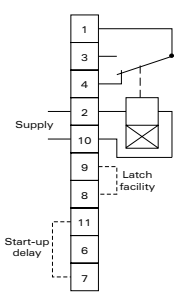
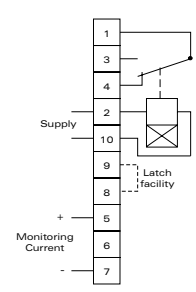
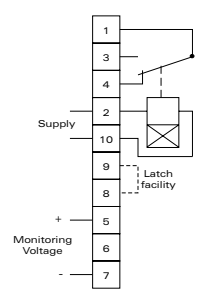
Two hand module	Alarm module	Multi-start attempt	Flasher (solid state)	Power supply 2VA	Power supply 10VA
THC1	**GAM3 (3 circuits)**	**G10 (3 starts)**	**SSF1**	**PSU/2**	**PSU/10**
THC1 two hand control designed as a safety device for machines where operator is forced to operate two pushbuttons within 0.5 secs to operate machine. A latch facility is provided for use with a foot switch.	Control of alarm outputs from 3 separate N/O inputs. Closure of any alarm contact energises a lamp output which flashes. On acceptance of the alarm (via a common "ALARM ACCEPT" p/button) the flashing lamp steadies and remains so until alarm condition is reset. The GAM3 test facilitates a common "LAMP TEST" facility. The system can be expanded to many more circuits on request by merely commoning up modules, the only restriction being the size of the power supply.	To initiate repetitive starting of standby generating sets. Applying supply initiates the first 1-30 sec start attempt. If this start is successful, supply should be removed. As long as supply remains the relay will start again after an equal dwell period. If the generator fails to start within 3 attempts the starting sequence will terminate and the separate alarm relay will energise. Can be supplied with up to 9 starts	Solid state flasher designed to eliminate mechanical wear when switching incandescent lamps continuously. Configurable to "STEADY" after 3-5-10 secs or flash continuously.	Provides a regulated DC output from an AC input source (2VA). PSU/2 2VA PSU/10 10VA	
AC: 12, 24, 110, 230, 400V ±15% DC: 12, 24, 48V ±15%	DC: 12, 24V ±10% (unregulated)	10-30 Vdc ±10%	AC: 110, 230, 400, 525V ±10%	AC: 24,110,230 ±15% 400 V(2VA)	
110, 230, 400, 525V are equipped with internal transformer, providing effective galvanic separation of the electronic circuitry from supply voltage (test volts: 2kV)					
Safety control for applications where guillotines and presses are operated.		Can be supplied with up to 9 starts. LED indication of "alarm on"	Two sequence output contacts allow sequential flashing.	Used to supply low current regulated DC supply from an AC source. Short circuit protection on the output.	
10A 250Vac	10A 250Vac	10A 250Vac	5A 250Vac	–	
AC: ±3VA DC: ±100mA	DC: ±600mA	DC: ±100mA	±3VA	– –	
two hand forced controller for safety operations	common "LAMP TEST" (pin 7) "ALARM ACCEPT" (pin 9)	interruption of supply resets relay	90 pulses per minute	input: 24, 110, 230, output: 5,9,10,12,24 Vdc	
					
389.00	**455.00**	**423.00**	**443.00**	**219.00**	**704.00**

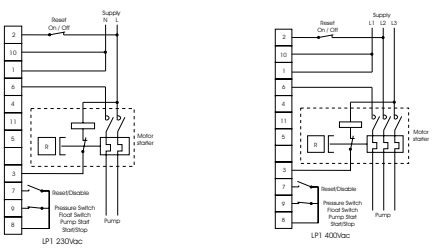
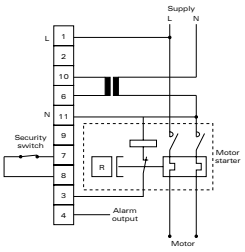
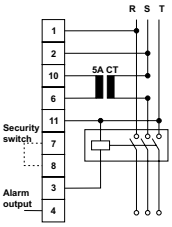
400V

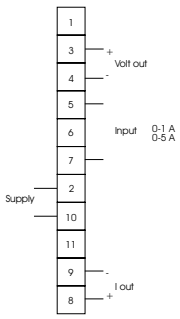
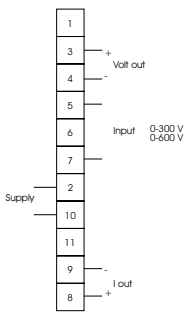
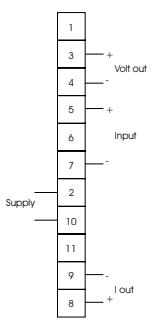
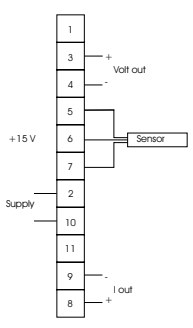
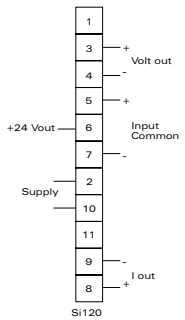
525V

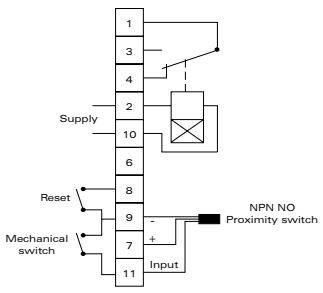
Function	Phase failure / sequence relay		Over / under voltage monitor (incorporating phase failure)		
Model	**SF1**	**SF1/K**	**V1E**	**V3E**	**V3E/N**
Description of operation	The relay will only operate while all three phases are present and in sequence. Provides effective protection of phase failure / phase reversal / excessive phase and “UNDER” limits and all imbalance and phase angle error. SF1/K with sensitivity adjustment		single phase Monitors own supply. Relay will only operate whilst teh supply voltage is wihtin teh presettable “OVER” and “UNDER” voltage limits and all three phases present and in sequence. Providing effective power supply supervision and protection. • Phase failure protection • Phase reversal protection • Over / under voltage protection	3 phase	3 phase + N
Standard Voltages	AC: 110, 230, 400, 525V ±15%		AC: 110, 230, 400, 525V ±15%		
Galvanic isolation	110, 230, 400, 525V are equipped with internal transformer, providing effective galvanic separation of the electronic circuitry from supply voltage (test volts: 2kV)				
Monitoring parameters	Phase failure / reversal / excessive Phase imbalance and phase angle error.		Upper: +5 ÷ +20% Lower: -5 ÷ -20% of nominal voltage. Phase failure / reversal A 10 sec start-up delay is incorporated if 8 + 10 are not bridged. If 8 + 10 are bridged a 180s response delay is enabled by bridging pins 8 + 9.		
Hysteresis	2% fixed		5% fixed		
General information	Measured voltage same as supply		Effective protection of “over” or “under” voltage combined with phase failure/rev.		
Contact rating	10A 250Vac		10A 250Vac		
Consumption	±3VA		±3VA		
Repeat accuracy	0.5%				
Technical information	Sensitivity beyond regenerated EMF.		Measuring range equals the rms value of a sinusoidal voltage.		
LED indication	“Relay on” (phases in sequence)		“Overvolts” and “Undervolts”		
Connection diagram					
Price	**330.00**	**342.00**	**476.00**	**492.00**	

Above prices do not include VAT. E&OE

Frequency monitor	Current monitor over/under		Voltage monitor
H1E	**LA5**	**WA5**	**V1C**
The relay is energised as long as measured frequency is within teh presettable “UPPER” (50-56 Hz) and “LOWER” (45-50 Hz)	The module directly interfaces with conventional 5A CTs. The relay will only operate as long as monitored current remains below the pre-set limit or above the pre-set limit. Hysteresis 5-50% (teh difference between the trip and recovery level) can be adjusted. (WA5 has over + under setting knobs). A 10 sec start-up delay can be enabled by rear mounted dip switches. “OVER CURRENT” “UNDER CURRENT”		This relay monitors a seperate voltag input (Pins 5 + 7). The relay will only operate as long as teh monitored voltage remains “BELOW” the pre-set over voltage limit or “ABOVE” teh pre-set overvoltage limit. Hysteresis 5-50% (the difference between teh trip and recover level) can be adjusted. “OVER VOLTAGE” “UNDER VOLTAGE”
AC: 24, 48, 110, 230, 400, 525V ±15%	AC: 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48V ±15%		AC: 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48V ±15%
110, 230, 400, 525V are equipped with internal transformer, providing effective galvanic separation of the ele ctronic circuitry from supply voltage. (Test volts: 2kV)			
Adjustable bandwidth Lower: 44-50 Hz Upper: 50-56 Hz A 10 sec start-up delay enabled by bridging Pins 7 + 11. A latch facility can be enabled by bridging Pins 8 +9.	LA5/5 0-5A adjustable LA5/1 0-1A adjustable LA5/D 4-20mA / 0-50mV 40-200mA  OVER CURRENT; 10sec START-UP DELAY UNDER CURRENT; NO START-UP DELAY		0.10- 10Vac (rms) or DC 0.4- 40Vac (rms) or DC 40-400Vac (rms) or DC 60-600Vac (rms) or DC “ON” “OFF” 10sec START-UP DELAY
0.5 Hz (fixed)	5-50% (adjustable)	5% (pre-set)	5-50% (adjustable)
H1E has separately adjustble “UPPER” and “LOWER” settings	Selectable: • “Over” or “Under” current detection • 1A or 5A Curret input • 10sec start-up delay • Latch facility		Monitored voltage and supply separate. Latch facility (Pins 8 + 9)
10A 250Vac	10A 250Vac		10A 250Vac
±3VA	±3VA		AC: ±3VA DC: ±100mA
1%	0.5%		
supply frequency 44-58 Hz	external shunt provided for CT protection		input impedance 500kΩ max. input voltage 690V
“Over” “Under” “Relay on”	“Relay on” “Power on” “Over” + “Under” Current		“Relay on” and “Power on”
			
419.00	**495.00**		**443.00**

Function	Pump protection relay	Pump protection relay	
		Single phase	Three phase
Model	**LP1**	**LP2**	**LP3**
Description of operation	Economic pump protection module providing protection from: • running dry (underload) • locked rotor (overload) • phase failure / reversal. Press "SET" under normal pumping conditions, and all parameters are automatically set to monitor pump. The protection relay will disconnect the motor on monitoring any of the above alarm conditions. A delay reset of 6 hrs is activated on monitoring any of the above conditions (allowing borehole to refill before switching back on.)	Microprocessor pump protection providing effective protection from: • running dry (underload) • locked rotor (overload) • phase failure / reversal. Press "SET" (front mounted membrane switch) under normal pumping conditions. Pump protection is now set and will monitor under/overload, phase failure / reversal, and will disconnect the motor on monitoring any of the above. A delay reset 1-8 hrs (rear dip switches) allows borehole, etc time to refill before switching back on.	
Standards voltages	AC: 230, 400, 525V ±15%	AC: 230V ±15%	AC: 400V ±15%
Galvanic isolation	110, 230, 400, 525V are equipped with internal transformer, providing effective galvanic separation of the electronic circuitry from supply voltage. (test volts: 2kV)		
Motor size	0.25-0.55 kW (single phase 230V) direct 0.25-2.20 kW (3 phase 400V) direct * larger motor size can be monitored by utilising conventional 5A secondary CT		
Monitoring parameters Running dry (underload) Locked rotor (overload) Phase failure/reversal Under/over voltage Star/delta monitoring Calibration External operating device	 yes yes yes yes yes automatic yes	 yes yes yes yes yes automatic yes	
LED status indication	"power" "relay on"	"power" "relay on" - - - overvoltage - • • undervoltage • - - overcurrent • • • undercurrent • - • phase / failure - • - safety switch	
Reset time delay	6 hrs (fixed) other ranges available	1 hr - 2 hr - 4 hr - 8 hr (selectable via rear mounted dip switches)	
General information	automatic self diagnostics of motor	automatic self diagnostics of motor	
Contact rating	10A 250Vac	10A 250Vac	
Consumption	± 3 VA	± 3 VA	
Repeat accuracy	1%	1%	
Other information	security switch Pins 8 + 9 for connection of level, pressure, time or start switch		
Insulation	2 kV between supply and output adjacent and adjacent contacts 1 kV between open contacts		
Mechanical life	30 million operations		
Ambient limits	(operating) -20 + 60ºC		
Type of duty	continuous (100%)		
Response time	1 sec		
Connection diagram			
Price	**448.00**	**570.00**	**584.00**

Function	Current converter	Voltage converter	Signal converter	Frequency converter	Signal isolator
Model	**SC120A**	**SC120V**	**SC100**	**SC100P**	**SI120**
Description of operation	The SC120AC is a signal converter incorporating latest solid state technology. Accepting current signals from conventional current transformers and converting these to a standard transmission signal such as 4-20 mA (true RMS)	The SC120V is a signal converter incorporating latest solid state technology. It accepts voltage signals, converting them into standard transmission signals such as 4-20 mA (true RMS)	The SC100 is a signal converter incorporating latest solid state technology. Accepting inputs of voltage, current, or resistance and converting these to standard transmission signal such as 0-1/10 mA, 4-20 mA (true RMS)	The SC100P is a signal converterting Frequency to a conventional transmission signal such as 4-20 mA. A 24V on-board, unregulated power supply in incorporated for supply to proximity or other sources. A schmitt trigger input provides reliable, accurate operation even with slow input rise and fall times. Frequency limited to min 0-50Hz max 20kHz.	The SI120 is a signal isolator designed to eliminate potential ground loop problems prevalent in 4-20mA control loops. It can also be used in other applications where galvanic isolation is a requirement. The unit incorporates two isolated 24 Vdc power supplies for input and output loops allowing it to be used with mains and/ or loop powered transmit and receive instruments without the need for additional power supplies. Both power supplies are current limited at 30 mA. Isolation is achieved by the use of an opto-coupler current mirror circuit.
Standard voltage	AC: 110,230,400, 525 Vac 50Hz				
Galvanic isolation	110,230,400 525V are equipped with internal transformers providing effective galvanic separation of the electronic circuitry from supply voltage. (test volts: 2kV)				
Input signal options	0-1A 0-5A other on regular	0-300V ac as dc 0-600V ac as dc	mV mA thermocouple potentiometer	voltage, namur NPN/PnP 3 wire proximity reed switch 0-50Hz min	4-20 mA (Others available on request)
Output signal options	4-20 mA (Others available on request)	4-20 mA (Others available on request)	4-20 mA (Others available on request)	4-20 mA (Others available on request)	4-20 mA (Others available on request)
Accuracy	Linear +/- 0.2%				± 6 VA max
Consumption	+/- 3VA				<0.5% FS
Type of duty	Continuous (100%)				
Response time	+/-0.5sec				
Note	If voltage and current is available current must be bridged out for voltage to be available				
					
Price	**737.00**	**711.00**	**POR**	**POR**	**1043.00**

Function	**Counter/Timer**
Model	**XP404**
Description of operation	The XP404 is a fully programmable microprocessor controlled four digit counter/timer. The set value can be entered via the front membrane switch and teh function, range, relay action and up or down count/timer is set with an extended menu. The unit also incorporates a supply for a NPN proximity switch which can be used to pulse the counter.
Standards **Voltages**	AC: 24, 48, 110, 230, 400, 525V ±15% DC: 12, 24, 48V ±15%
Galvanic isolation	110, 230, 400, 525V are equipped with internal transformer, providing effective galvanic separation of the electronic circuitry from supply voltage (test volts: 2kV)
General information	Menu Diagram "SET" Button Momentarily Count / Time set-point "SET" Button 3 seconds - Function "FU" 01- Counter / De-bounce "db" (0.1sec) / Pre-scaler "PS" (1:1) / Pulse "PU"(01) / Pulse Length "PL" (0.5sec) / Up/Down "UP" (01) 02- Timer / Range "rA" (01) / Pulse "PU"(01) / Pulse Length "PL" (0.5sec) / Up/Down "UP" (01) / Interval "Int" (01) Range 1) 0-999.9sec 4) 0-9999min 2) 0-9999sec 5) 0-999.9hrs 3) 0-999.9min 6) 0-9999hrs
Power supply	12Vdc 20mA / -
Selection range	1-9999 (pulse) / 0.1-9999 sec (0.1-9999 min available on request)
Accuracy	0.5%
Technical information	count frequency 30Hz mechanical switch 5000Hz logic input
Contact rating	10A 250Vac
Consumption	(AC) 3VA (DC) 1.5W
Reset time	0.1 sec through supply 0.015 sec through reset function
Mechanical life	30 million operations
Ambient limits	(operating) -20 + 60ºC
Response time	±0.05 sec
Connection diagram	
Price	**716.00**

Above prices do not include VAT. E&OE

T10

9013.4

EX02

SN1

PS3S

EX11

EMD02

EMD03

MRT6...

MRT5...

MRT20...

C53V/24H

Standard time ranges: 10/60/600 sec 60/180/360 min
Standard Voltage: 24/48/110/230/400Vac 12/24/48Vdc +/-15%

type	function		price
Single function / single time range *(econo type)*			
T10/..*	on-delay	plug-in electronic timer 10A SPDT	**288.00**
T30/..*	on-delay + instantaneous	plug-in electronic timer 10A SPDT	**386.00**
R1E/..*	equal repeating	plug-in electronic timer 10A SPDT	**288.00**
PT11	pulse reset timer *(on-delay/interval)* NPN	10A SPDT	**389.00**
PT13	pulse reset timer *(on-delay/interval)* PNP	10A SPDT	**389.00**

* *Please specify time range and voltage when ordering*

Accessories

9013	11 pin	panel mount socket	solder terminal	**20.00**
9013.4	11 pin	rear *(flying lead)* socket	solder terminal	**26.00**
9015	11 pin	PCB mount socket	PCB mount socket	**20.00**
ES11/G	11 pin	surface / DIN rail mount socket *(grey)*	screw terminal	**45.00**
EX01	retaining spring-clip for plug-in devices			**21.00**
SN1	single line insulated stainless steel probe for conductive liquids			**97.00**
PS3S	3 electrode holder *(mounts through 50.5 mm hole)*			**98.00**
P1000S	electrodes for PS3S holder *(1 meter length)*			**46.00**
FS03-3P	electrode spacer disc *(for extended probe length)*			**20.00**
PXL	extension locknut *(each)*			**14.00**
EX02	panel mount adaptor frame for “Electro” plug-in devices			**56.00**
ANT 1	antenna for DGSM module			**570.00**
TP1	temperature probe			**128.00**

Plastic housings *(for electronic components)*

type	dimensions (mm) (H)x(W)x(D)	description	price
Plug-in housings *(black)*			
EX11	80 x 35 x 79	11 pin empty housing complete *(black)*	**26.00**
EX08	blank adhesive label for front of housing		**11.00**
EX06	potentiometer knob for above housing		**2.00**

Modular housings *(grey) 6.3 mm terminal centre spacing*

- Standard modular housing *(2 modules)* or *(3 modules wide)*
- DIN rail mounting
- Lines up with standard DIN MCBs and modular devices

EMD02	92 x 35.5 x 64	2 module complete housing Din rail mount	**33.00**
EMD03	92 x 35.5 x 64	3 module complete housing Din rail mount	**38.00**
EMX02	blank adhesive front label for EMD02 *(2 modular)* housing		**14.00**
EMX03	blank adhesive front label for EMD03 *(3 modular)* housing		**20.00**
EMX04	screw adjustable knob for internal potentiometer		**2.00**

Printed circuit terminals

Two and three way clip on to one another for any terminal combination.
EN60998 UL1059 IMQ, VDE µL approved.

type	pitch	No. ways		rated current	wire size	colour	price
MRT5P5/2VE	5.0	2		24A	0.2-2.5mm²	green	**3.60**
MRT5P5/3VE	5.0	3		24A	0.2-2.5mm²	green	**5.30**
MRT6P5/2VE	5.0	4	*(double deck)*	24A	0.2-2.5mm²	green	**11.00**
MRT6P5/3VE	5.0	6	*(double deck)*	24A	0.2-2.5mm²	green	**16.00**
MRT20P6.35/2GR	6.35	2		32A	0.2-6.0mm²	grey	**6.60**
MRT20P6.35/3GR	6.35	3		32A	0.2-6.0mm²	grey	**10.00**

Mechanical clockwork timer

- 16 A 250Vac (1 NO + 1 NC)
- Mounting by 2 x M4 screws

				time range		price
C53V/60M	16A	mechanical clockwork timer with graduated dial + knob	1O+1C	60	min	**566.00**
C53V/120M	16A	mechanical clockwork timer with graduated dial + knob	1O+1C	120	min	**566.00**
C53V/12H	16A	mechanical clockwork timer with graduated dial + knob	1O+1C	12	hour	**667.00**
C53V/24H	16A	mechanical clockwork timer with graduated dial + knob	1O+1C	24	hour	**667.00**

48 x 48 mm panel mounting digital timing, counting, control and monitoring devices available in a compact housing design. Feature many innovative features such as various relay output options as well as “re-tx” (re-transmit) function offering an additional 4-20 mA output with specific monitoring devices.

- Standard supply voltages — AC: 12V, 24V, 48V, 110V, 240V, 400V, 500V, 525V
  DC: 12V, 24V, 48V (isolated supply available on request **+ R160.00**)
  DC: 5V, 18-36V, 36-72V (isolated supply available on request **+ R300.00**)

type	description		range	re-tx	relays	price
Digital timing devices and pre-select counter						
• Feature ability to continue from where left off in the event of a power loss during timing						
P44MFT1	multifunction timer	–	1sec - 9999 hrs	–	1	**899.00**
P44ACT1	accumulation Timer	–	1sec - 100 hrs	–	2	**949.00**
P44RHM1	running hour meter	–	1sec - 9999 hrs	–	1	**899.00**
P44CNT0	counter / frequency indicator	–	4 or 8 digit mode	–	0	**835.00**
P44CNT1	counter / frequency monitor	–	4 or 8 digit mode	–	1	**886.00**
P44CWT1	digital clockwork timer	–	0-100min or hrs	–	1	**899.00**
AC voltage indicator / monitor						
Displays and/or monitors true RMS single or three phase supply voltages						
P44VM10	single phase voltage indicator	–	0 - 300V* (1ph)	–	0	**823.00**
P44VM10-T	single phase voltage indicator	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	0	**987.00**
P44VM11	single phase voltage indicator	–	0 - 300V* (1ph)	–	1	**873.00**
P44VM11-T	single phase voltage indicator	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	1	**1038.00**
P44VM12	single phase voltage indicator	–	0 - 300V* (1ph)	–	2	**924.00**
P44VM12-T	single phase voltage indicator	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	2	**1088.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				
P44VM30(N)	3 ph voltage & frequency indicator	–	0 - 500V (3ph)	–	0	**949.00**
P44VM31(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	1	**1000.00**
P44VM32(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	2	**1050.00**
P44VM32V(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	2	**1050.00**
(N) *software selectable neutral monitoring as well*						
DC voltage indicator / monitor						
P44VMD0	DC voltage indicator		0 - 150V*	–	0	**785.00**
P44VMD0-T	DC voltage indicator	with 4-20mA re-transmit	0 - 150V*	yes	0	**937.00**
P44VMD1	DC voltage monitor	–	0 - 150V*	–	1	**835.00**
P44VMD1-T	DC voltage monitor	with 4-20mA re-transmit	0 - 150V*	yes	1	**987.00**
P44VMD2	DC voltage monitor	–	0 - 150V*	–	2	**886.00**
P44VMD2-T	DC voltage monitor	with 4-20mA re-transmit	0 - 150V*	yes	2	**1038.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				
Frequency indicator / monitor						
P44SFM0	single phase frequency indicator	–	0 - 9999Hz	–	0	**848.00**
P44SFM1	single phase frequency monitor	–	0 - 9999Hz	–	1	**899.00**
AC current monitors						
Displays and/or monitors true RMS AC current signal from current transformers						
P44CMA0-1	AC current indicator	–	0 - 1 A	–	0	**886.00**
P44CMA0-1-T	AC current indicator	with 4-20mA re-transmit	0 - 1 A	yes	0	**1050.00**
P44CMA1-1	AC current monitor	–	0 - 1 A	–	1	**937.00**
P44CMA1-1-T	AC current monitor	with 4-20mA re-transmit	0 - 1 A	yes	1	**1101.00**
P44CMA2-1	AC current monitor	–	0 - 1 A	–	2	**987.00**
P44CMA2-1-T	AC current monitor	with 4-20mA re-transmit	0 - 1 A	yes	2	**1152.00**
P44CMA0-5	AC current indicator	–	0 - 5 A	–	0	**886.00**
P44CMA0-5-T	AC current indicator	with 4-20mA re-transmit	0 - 5 A	yes	0	**1050.00**
P44CMA1-5	AC current monitor	–	0 - 5 A	–	1	**937.00**
P44CMA1-5-T	AC current monitor	with 4-20mA re-transmit	0 - 5 A	yes	1	**1101.00**
P44CMA2-5	AC current monitor	–	0 - 5 A	–	2	**987.00**
P44CMA2-5-T	AC current monitor	with 4-20mA re-transmit	0 - 5 A	yes	2	**1152.00**
		0-10V re-transmit available on request				
DC current monitors						
P44CMD0	DC current indicator	–	0-50mV*	–	0	**886.00**
P44CMD0-T	DC current indicator	with 4-20mA re-transmit	0-50mV*	yes	0	**1050.00**
P44CMD1	DC current monitor	–	0-50mV*	–	1	**937.00**
P44CMD1-T	DC current monitor	with 4-20mA re-transmit	0-50mV*	yes	1	**1101.00**
P44CMD2	DC current monitor	–	0-50mV*	–	2	**987.00**
P44CMD2-T	DC current monitor	with 4-20mA re-transmit	0-50mV*	yes	2	**1152.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				

Above prices do not include VAT. E&OE

Temperature controllers

Displays and/or monitors temperature using various temperature sensors.

type	description		sensor	range	re-tx	relays	price
P44TC0*	temperature indicator		TS3 probe	-30°C to 105°C	–	0	**734.00**
P44TC1*	temperature controller		TS3 probe	-30°C to 105°C	–	1	**785.00**
P44TC2*	temperature controller		TS3 probe	-30°C to 105°C	–	2	**835.00**
P44TCT1	temp controller and 24hr timer		TS3 probe	-30°C to 105°C	–	2	**861.00**
TS3	temperature probe for above controllers			*(3 meter cable)*			**133.00**
				longer cable per meter			**10.00**

* *Can be used with one or two TS3 temperature probes (for high and low temp monitoring)*

P44HTC0	temperature indicator	–	PT100	-50°C to 440°C	–	0	**747.00**
P44HTC0-T	temperature indicator	(re-tx)	PT100	-50°C to 440°C	yes	0	**911.00**
P44HTC1	temperature controller	–	PT100	-50°C to 440°C	–	1	**797.00**
P44HTC1-T	temperature controller	(re-tx)	PT100	-50°C to 440°C	yes	1	**962.00**
P44HTC2	temperature controller	–	PT100	-50°C to 440°C	–	2	**848.00**
P44HTC2-T	temperature controller	(re-tx)	PT100	-50°C to 440°C	yes	2	**1012.00**
P44HTCT1	temp controller & 24hr timer		PT100	-50°C to 440°C	–	2	**886.00**
P44TTC0	temperature indicator	–	thermocouple	-50°C to 1320°C	–	0	**759.00**
P44TTC0-T	temperature indicator	(re-tx)	thermocouple	-50°C to 1320°C	yes	0	**924.00**
P44TTC1	temperature controller	–	thermocouple	-50°C to 1320°C	–	1	**810.00**
P44TTC1-T	temperature controller	(re-tx)	thermocouple	-50°C to 1320°C	yes	1	**975.00**
P44TTC2	temperature controller	–	thermocouple	-50°C to 1320°C	–	2	**861.00**
P44TTC2-T	temperature controller	(re-tx)	thermocouple	-50°C to 1320°C	yes	2	**1025.00**
P44TTCT1	temp controller & 24hr timer	–	thermocouple	-50°C to 1320°C	–	2	**899.00**

For type J,K,R,S,T,N thermocouples

4 - 20 mA LOOP indicators / monitors

Displays and/or monitors transducer generated signals with outputs 4-20mA as real world values from -999 to 9999 for indicating voltage, current, temperature, pressure etc. and displaying in real values.

P44LM0	4-20mA Loop indicator	–	0-20mA/4-20mA	–	0	**785.00**
P44LM0-P	4-20mA Loop indicator	with 24Vdc power supply	0-20mA/4-20mA	–	0	**924.00**
P44LM0-T	4-20mA Loop indicator	with 4-20mA re-transmit	0-20mA/4-20mA	yes	0	**937.00**
P44LM1	4-20mA Loop monitor	–	0-20mA/4-20mA	–	1	**835.00**
P44LM1-P	4-20mA Loop monitor	with 24Vdc power supply	0-20mA/4-20mA	–	1	**975.00**
P44LM1-T	4-20mA Loop monitor	with 4-20mA re-transmit	0-20mA/4-20mA	yes	1	**987.00**
P44LM2	4-20mA Loop monitor	–	0-20mA/4-20mA	–	2	**886.00**
P44LM2-P	4-20mA Loop monitor	with 24Vdc power supply	0-20mA/4-20mA	–	2	**1025.00**
P44LM2-T	4-20mA Loop monitor	with 4-20mA re-transmit	0-20mA/4-20mA	yes	2	**1038.00**

* *0-10V re-transmit output available on request*

0 - 10V input signal indicator / monitors

Displays and/or monitors transducer generated signals with outputs 0-10V as real world values from -999 to 9999 for indicating voltage, current, temperature, pressure etc. and displaying in real values.

P44SM0-10	0 - 10V signal indicator	–	0 - 10V*	–	0	**785.00**
P44SM0-10-T	0 - 10V signal indicator	with 4-20mA re-transmit	0 - 10V*	yes	0	**937.00**
P44SM1-10	1 - 10V signal monitor	–	0 - 10V*	–	1	**835.00**
P44SM1-10-T	1 - 10V signal monitor	with 4-20mA re-transmit	0 - 10V*	yes	1	**987.00**
P44SM2-10	2 - 10V signal monitor	–	0 - 10V*	–	2	**886.00**
P44SM2-10-T	2 - 10V signal monitor	with 4-20mA re-transmit	0 - 10V*	yes	2	**1038.00**

* *Available with a 0-5V or 10K potentiometer input*

RPM / pulses per hour

Displays and/or monitors speed (RPM) relay remains energised while monitored speed is within pre-set parameters NO-NPN proxi, *(PNP available on request).*

P44RPM0	RPM indicator	–	2pph - 9999rpm	–	0	**785.00**
P44RPM0-T	RPM indicator	with 4-20mA re-transmit	2pph - 9999rpm	yes	0	**949.00**
P44RPM1	RPM monitor	–	2pph - 9999rpm	–	1	**835.00**
P44RPM1-T	RPM monitor	with 4-20mA re-transmit	2pph - 9999rpm	yes	1	**1000.00**
P44RPM2	RPM monitor	–	2pph - 9999rpm	–	2	**886.00**
P44RPM2-T	RPM monitor	with 4-20mA re-transmit	2pph - 9999rpm	–	2	**1050.00**

48 x 96 mm panel mounting digital timing, counting, control and monitoring devices available in a compact housing design. Offer many innovative features such as various relay output options as well as “re-tx” *(re-transmit)* function offering an additional 4-20 mA output with specific monitoring devices.

- Standard supply voltages — AC: 12V, 24V, 48V, 110V, 240V, 400V, 500V, 525V
  DC: 12V, 24V, 48V (isolated supply available on request **+ R160.00**)
  DC: 5V, 18-36V, 36-72V (isolated supply available on request **+ R300.00**)

type	description		range	re-tx	relays	price
Digital timing devices and pre-select counter						
• Feature ability to continue from where left off in the event of a power loss during timing						
P49MFT1	multifunction timer	–	1sec - 9999 hrs	–	1	**911.00**
P49ACT1	accumulation Timer	–	1sec - 100 hrs	–	2	**962.00**
P49RHM1	running hour meter	–	1sec - 9999 hrs	–	1	**911.00**
P49CNT0	counter / frequency indicator	–	4 digit mode	–	0	**848.00**
P49CNT1	counter / frequency monitor	–	4 digit mode	–	1	**899.00**
P49CWT1	digital clockwork timer	–	0-100min or hrs	–	1	**911.00**
AC voltage indicator / monitor						
Displays and/or monitors true RMS single or three phase supply voltages.						
P49VM10	single phase voltage monitor	–	0 - 300V* (1ph)	–	0	**823.00**
P49VM10-T	single phase voltage monitor	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	0	**1088.00**
P49VM11	single phase voltage monitor	–	0 - 300V* (1ph)	–	1	**873.00**
P49VM11-T	single phase voltage monitor	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	1	**1139.00**
P49VM12	single phase voltage monitor	–	0 - 300V* (1ph)	–	2	**924.00**
P49VM12-T	single phase voltage monitor	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	2	**1190.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				
P49VM30(N)	3 ph voltage & frequency indicator	–	0 - 500V (3ph)	–	0	**962.00**
P49VM31(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	1	**1012.00**
P49VM32(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	2	**1063.00**
P49VM32V(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	2	**1063.00**
(N) *software selectable neutral monitoring as well*						
DC voltage indicator / monitor						
P49VMD0	DC voltage indicator	–	0 - 150V*	–	0	**899.00**
P49VMD0-T	DC voltage indicator	with 4-20mA re-transmit	0 - 150V*	yes	0	**1164.00**
P49VMD1	DC voltage monitor	–	0 - 150V*	–	1	**949.00**
P49VMD1-T	DC voltage monitor	with 4-20mA re-transmit	0 - 150V*	yes	1	**1215.00**
P49VMD2	DC voltage monitor	–	0 - 150V*	–	2	**1000.00**
P49VMD2-T	DC voltage monitor	with 4-20mA re-transmit	0 - 150V*	yes	2	**1265.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				
Frequency indicator / monitor						
Displays and/or monitors mains supply frequency						
P49SFM0	single phase frequency indicator	–	0 - 9999Hz	–	0	**848.00**
P49SFM1	single phase frequency monitor	–	0 - 9999Hz	–	1	**899.00**
AC current monitors						
Displays and/or monitors true RMS AC current signal from current transformers.						
P49CMA0-1	AC current indicator	–	0 - 1 A	–	0	**886.00**
P49CMA0-1-T	AC current indicator	with 4-20mA re-transmit	0 - 1 A	yes	0	**1152.00**
P49CMA1-1	AC current monitor	–	0 - 1 A	–	1	**937.00**
P49CMA1-1-T	AC current monitor	with 4-20mA re-transmit	0 - 1 A	yes	1	**1202.00**
P49CMA2-1	AC current monitor	–	0 - 1 A	–	2	**987.00**
P49CMA2-1-T	AC current monitor	with 4-20mA re-transmit	0 - 1 A	yes	2	**1253.00**
P49CMA0-5	AC current indicator	–	0 - 5 A	–	0	**886.00**
P49CMA0-5-T	AC current indicator	with 4-20mA re-transmit	0 - 5 A	yes	0	**1152.00**
P49CMA1-5	AC current monitor	–	0 - 5 A	–	1	**937.00**
P49CMA1-5-T	AC current monitor	with 4-20mA re-transmit	0 - 5 A	yes	1	**1202.00**
P49CMA2-5	AC current monitor	–	0 - 5 A	–	2	**987.00**
P49CMA2-5-T	AC current monitor	with 4-20mA re-transmit	0 - 5 A	yes	2	**1253.00**
DC current monitors						
P49CMD0	DC current indicator	–	0-50mV*	–	0	**886.00**
P49CMD0-T	DC current indicator	with 4-20mA re-transmit	0-50mV*	yes	0	**1152.00**
P49CMD1	DC current monitor	–	0-50mV*	–	1	**937.00**
P49CMD1-T	DC current monitor	with 4-20mA re-transmit	0-50mV*	yes	1	**1202.00**
P49CMD2	DC current monitor	–	0-50mV*	–	2	**987.00**
P49CMD2-T	DC current monitor	with 4-20mA re-transmit	0-50mV*	yes	2	**1253.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				

Above prices do not include VAT. E&OE

Temperature controllers

Displays and/or monitors temperature from various temperature sensors.

type	description		sensor	range	re-tx	relays	price
P49TC0*	temperature indicator		TS3 probe	-30°C to 105°C	–	0	**747.00**
P49TC1*	temperature controller		TS3 probe	-30°C to 105°C	–	1	**797.00**
P49TC2*	temperature controller		TS3 probe	-30°C to 105°C	–	2	**848.00**
P49TCT1	temp controller & 24hr timer		TS3 probe	-30°C to 105°C	–	2	**873.00**
TS3	temperature probe for above controllers			*(3 meter cable)*			**133.00**
				longer cable per meter			**10.00**
P49HTC0	temperature indicator	–	PT100	-50°C to 440°C	–	0	**861.00**
P49HTC0-T	temperature indicator	(re-tx)	PT100	-50°C to 440°C	yes	0	**1126.00**
P49HTC1	temperature controller	–	PT100	-50°C to 440°C	–	1	**911.00**
P49HTC1-T	temperature controller	(re-tx)	PT100	-50°C to 440°C	yes	1	**1177.00**
P49HTC2	temperature controller	–	PT100	-50°C to 440°C	–	2	**962.00**
P49HTC2-T	temperature controller	(re-tx)	PT100	-50°C to 440°C	yes	2	**1228.00**
P49HTCT1	temp controller & 24hr timer	–	PT100	-50°C to 440°C	–	2	**975.00**
P49TTC0	temperature indicator	–	thermocouple	-50°C to 1320°C	–	0	**873.00**
P49TTC0-T	temperature indicator	(re-tx)	thermocouple	-50°C to 1320°C	yes	0	**1139.00**
P49TTC1	temperature controller	–	thermocouple	-50°C to 1320°C	–	1	**924.00**
P49TTC1-T	temperature controller	(re-tx)	thermocouple	-50°C to 1320°C	yes	1	**1190.00**
P49TTC2	temperature controller	–	thermocouple	-50°C to 1320°C	–	2	**975.00**
P49TTC2-T	temperature controller	(re-tx)	thermocouple	-50°C to 1320°C	yes	2	**1240.00**
P49TTCT1	temp controller & 24hr timer	–	thermocouple	-50°C to 1320°C	–	2	**987.00**

* *Can be used with one or two TS3 temperature probes (for high and low temp monitoring)*

For type J,K,R,S,T,N thermocouples *4-20mA or 0-10V re-transmit available on request*

4 - 20 mA LOOP indicators / monitors

Displays and/or monitors transducer generated signals with outputs 4-20mA as real world values from -999 to 9999 for indicating voltage, current, temperature, pressure etc. and displaying in real values.

P49LM0	4-20mA loop indicator	–	0-20mA/4-20mA	–	0	**899.00**
P49LM0-P	4-20mA loop indicator	with 24Vdc power supply	0-20mA/4-20mA	–	0	**1050.00**
P49LM0-T	4-20mA loop indicator	with 4-20mA re-transmit	0-20mA/4-20mA	yes	0	**1164.00**
P49LM0-P-T	4-20mA loop indicator	24V power supply	A/4-20mA	yes	0	**1316.00**
P49LM1	4-20mA loop monitor	–	0-20mA/4-20mA	–	1	**949.00**
P49LM1-P	4-20mA loop monitor	with 24Vdc power supply	0-20mA/4-20mA	–	1	**1101.00**
P49LM1-T	4-20mA loop monitor	with 4-20mA re-transmit	0-20mA/4-20mA	yes	1	**1215.00**
P49LM1-P-T	4-20mA loop indicator	24V power supply	A/4-20mA	yes	1	**1367.00**
P49LM2	4-20mA loop monitor	–	0-20mA/4-20mA	–	2	**1000.00**
P49LM2-P	4-20mA loop monitor	with 24Vdc power supply	0-20mA/4-20mA	–	2	**1152.00**
P49LM2-T	4-20mA loop monitor	with 4-20mA re-transmit	0-20mA/4-20mA	yes	2	**1265.00**
P49LM2-P-T	4-20mA loop indicator	24V power supply	A/4-20mA	yes	2	**1417.00**

Re-transmit available as 0-10V on request

0 - 10V input signal indicator / monitors

Displays and/or monitors transducer generated signals with outputs 0-10V as real world values from -999 to 9999 for indicating voltage, current, temperature, pressure etc. and displaying in real values.

P49SM0-10	0 - 10V signal indicator	–	0 - 10V*	–	0	**899.00**
P49SM0-10-T	0 - 10V signal indicator	with 4-20mA re-transmit	0 - 10V*	yes	0	**1164.00**
P49SM1-10	1 - 10V signal monitor	–	0 - 10V*	–	1	**949.00**
P49SM1-10-T	1 - 10V signal monitor	with 4-20mA re-transmit	0 - 10V*	yes	1	**1215.00**
P49SM2-10	2 - 10V signal monitor	–	0 - 10V*	–	2	**1000.00**
P49SM2-10-T	2 - 10V signal monitor	with 4-20mA re-transmit	0 - 10V*	yes	2	**1265.00**

* *Available with a 0-5V or 10K potentiometer input*

RPM / pulses per hour

Displays and/or monitors speed (RPM) relay remains energised while monitored speed is within pre-set parameters.

P49RPM0	RPM indicator	–	2pph - 9999rpm	–	0	**797.00**
P49RPM0-T	RPM indicator	with 4-20mA re-transmit	2pph - 9999rpm	yes	0	**1063.00**
P49RPM1	RPM monitor	–	2pph - 9999rpm	–	1	**848.00**
P49RPM1-T	RPM monitor	with 4-20mA re-transmit	2pph - 9999rpm	yes	1	**1114.00**
P49RPM2	RPM monitor	–	2pph - 9999rpm	–	2	**899.00**
P49RPM2-T	RPM monitor	with 4-20mA re-transmit	2pph - 9999rpm	–	2	**1164.00**

* *0-10V re-transmit output available on request*

New – plug in termination for ease of replacement
– 3-module wide (54 mm)
– dual colour LED display

Modular Din rail mounting digital timing, counting, control and monitoring devices available in a compact housing design. Offers many innovative features such as various relay output options as well as "re-tx" *(re-transmit)* function offering an additional 4-20 mA output with specific monitoring devices.

- Standard supply voltages — AC: 12V, 24V, 48V, 110V, 240V, 400V, 500V, 525V
  DC: 12V, 24V, 48V (isolated supply available on request **+ R160.00**)
  DC: 5V, 18-36V, 36-72V (isolated supply available on request **+ R300.00**)

type	description		range	re-tx	relays	price
Digital timing devices and pre-select counter						
• Feature ability to continue from where left off in the event of a power loss during timing						
D3MFT1	multifunction timer	–	1sec - 9999 hrs	–	1	**949.00**
D3ACT1	accumulation Timer	–	1sec - 100 hrs	–	2	**1000.00**
D3RHM1	running hour meter	–	1sec - 9999 hrs	–	1	**949.00**
D3CNT0	counter / frequency indicator	–	4 or 8 digit mode	–	0	**886.00**
D3CNT1	counter / frequency monitor	–	4 or 8 digit mode	–	1	**937.00**
D3CWT1	digital clockwork timer	–	0-100min or hrs	–	1	**949.00**
AC voltage indicator / monitor						
Monitors and displays true RMS single or three phase supply voltages.						
D3VM10	single phase voltage indicator	–	0 - 300V* (1ph)	–	0	**873.00**
D3VM10-T	single phase voltage indicator	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	0	**1038.00**
D3VM11	single phase voltage monitor	–	0 - 300V* (1ph)	–	1	**924.00**
D3VM11-T	single phase voltage monitor	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	1	**1088.00**
D3VM12	single phase voltage monitor	–	0 - 300V* (1ph)	–	2	**975.00**
D3VM12-T	single phase voltage monitor	with 4-20mA re-transmit	0 - 300V* (1ph)	yes	2	**1139.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				
D3VM30(N)	3 ph voltage & frequency indicator	–	0 - 500V (3ph)	–	0	**1000.00**
D3VM31(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	1	**1050.00**
D3VM32(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	2	**1101.00**
D3VM32V(N)	3 ph voltage & frequency monitor	–	0 - 500V (3ph)	–	2	**1101.00**
(N) *software selectable neutral monitoring as well*						
DC voltage indicator / monitor						
D3VMD0	DC voltage indicator	–	0 - 150V*	–	0	**835.00**
D3VMD0-T	DC voltage indicator	with 4-20mA re-transmit	0 - 150V*	yes	0	**1000.00**
D3VMD1	DC voltage monitor	–	0 - 150V*	–	1	**886.00**
D3VMD1-T	DC voltage monitor	with 4-20mA re-transmit	0 - 150V*	yes	1	**1050.00**
D3VMD2	DC voltage monitor	–	0 - 150V*	–	2	**937.00**
D3VMD2-T	DC voltage monitor	with 4-20mA re-transmit	0 - 150V*	yes	2	**1101.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				
Frequency indicator / monitor						
D3SFM0	single phase frequency indicator		0 - 9999Hz		0	**899.00**
D3SFM1	single phase frequency monitor		0 - 9999Hz		1	**949.00**
AC current monitors						
Monitors and displays true RMS AC current signal from current transformers.						
D3CMA0-1	AC current indicator	–	0 - 1 A	–	0	**937.00**
D3CMA0-1-T	AC current indicator	with 4-20mA re-transmit	0 - 1 A	yes	0	**1101.00**
D3CMA1-1	AC current monitor	–	0 - 1 A	–	1	**987.00**
D3CMA1-1-T	AC current monitor	with 4-20mA re-transmit	0 - 1 A	yes	1	**1152.00**
D3CMA2-1	AC current monitor	–	0 - 1 A	–	2	**1038.00**
D3CMA2-1-T	AC current monitor	with 4-20mA re-transmit	0 - 1 A	yes	2	**1202.00**
D3CMA0-5	AC current indicator	–	0 - 5 A	–	0	**937.00**
D3CMA0-5-T	AC current indicator	with 4-20mA re-transmit	0 - 5 A	yes	0	**1101.00**
D3CMA1-5	AC current monitor	–	0 - 5 A	–	1	**987.00**
D3CMA1-5-T	AC current monitor	with 4-20mA re-transmit	0 - 5 A	yes	1	**1152.00**
D3CMA2-5	AC current monitor	–	0 - 5 A	–	2	**1038.00**
D3CMA2-5-T	AC current monitor	with 4-20mA re-transmit	0 - 5 A	yes	2	**1202.00**
DC current monitors						
D3CMD0	DC current indicator	–	0-50mV*	–	0	**937.00**
D3CMD0-T	DC current indicator	with 4-20mA re-transmit	0-50mV*	yes	0	**1101.00**
D3CMD1	DC current monitor	–	0-50mV*	–	1	**987.00**
D3CMD1-T	DC current monitor	with 4-20mA re-transmit	0-50mV*	yes	1	**1152.00**
D3CMD2	DC current monitor	–	0-50mV*	–	2	**1038.00**
D3CMD2-T	DC current monitor	with 4-20mA re-transmit	0-50mV*	yes	2	**1202.00**
* *Other voltages available on request*		*0-10V re-transmit available on request*				

Above prices do not include VAT. E&OE

Temperature controllers

Monitors and displays temperature using various temperature sensors.

type	description		sensor	range	re-tx	relays	price
D3TC0*	temperature indicator		TS3 probe	-30°C to 105°C	–	0	**785.00**
D3TC1*	temperature controller		TS3 probe	-30°C to 105°C	–	1	**835.00**
D3TC2*	temperature controller		TS3 probe	-30°C to 105°C	–	2	**886.00**
D3TCT1	temp controller & 24hr timer		TS3 probe	-30°C to 105°C	–	2	**911.00**
TS3	temperature probe for above controllers			(3 meter cable)			**133.00**
				longer cable per meter			**10.00**
D3HTC0	temperature indicator	–	PT100	-50°C to 440°C	–	0	**785.00**
D3HTC0-T	temperature indicator	(re-tx)	PT100	-50°C to 440°C	yes	0	**949.00**
D3HTC1	temperature controller	–	PT100	-50°C to 440°C	–	1	**835.00**
D3HTC1-T	temperature controller	(re-tx)	PT100	-50°C to 440°C	yes	1	**1000.00**
D3HTC2	temperature controller	–	PT100	-50°C to 440°C	–	2	**886.00**
P3HTC2-T	temperature controller	(re-tx)	PT100	-50°C to 440°C	yes	2	**1050.00**
D3HTCT1	temp controller & 24hr timer	–	PT100	-50°C to 440°C	–	2	**911.00**
D3TTC0	temperature indicator	–	thermocouple	-50°C to 1320°C	–	0	**734.00**
D3TTC0-T	temperature indicator	(re-tx)	thermocouple	-50°C to 1320°C	yes	0	**899.00**
D3TTC1	temperature controller	–	thermocouple	-50°C to 1320°C	–	1	**785.00**
D3TTC1-T	temperature controller	(re-tx)	thermocouple	-50°C to 1320°C	yes	1	**949.00**
D3TTC2	temperature controller	–	thermocouple	-50°C to 1320°C	–	2	**835.00**
D3TTC2-T	temperature controller	(re-tx)	thermocouple	-50°C to 1320°C	yes	2	**1000.00**
D3TTCT1	temp controller & 24hr timer	–	thermocouple	-50°C to 1320°C	–	2	**861.00**

* *Can be used with one or two TS3 temperature probes (for high and low temp monitoring)*

4 - 20 mA LOOP indicators / monitors

Displays and monitors transducer generated signals with outputs 4-20mA as real world values from -999 to 9999 for indicating voltage, current, temperature, pressure etc. and displaying in real values.

D3LM0	4-20mA loop indicator	–	0-20mA/4-20mA	–	0	**835.00**
D3LM0-P	4-20mA loop indicator	with 24Vdc power supply	0-20mA/4-20mA	–	0	**975.00**
D3LM0-T	4-20mA loop indicator	with 4-20mA* re-transmit	0-20mA/4-20mA	yes	0	**1000.00**
D3LM1	4-20mA loop monitor	–	0-20mA/4-20mA	–	1	**886.00**
D3LM1-P	4-20mA loop monitor	with 24Vdc power supply	0-20mA/4-20mA	–	1	**1025.00**
D3LM1-T	4-20mA loop monitor	with 4-20mA* re-transmit	0-20mA/4-20mA	yes	1	**1050.00**
D3LM2	4-20mA loop monitor	–	0-20mA/4-20mA	–	2	**937.00**
D3LM2-P	4-20mA loop monitor	with 24Vdc power supply	0-20mA/4-20mA	–	2	**1076.00**
D3LM2-T	4-20mA loop monitor	with 4-20mA* re-transmit	0-20mA/4-20mA	yes	2	**1101.00**

* *0-10V re-transmit output available on request*

0 - 10V input signal indicator / monitors

Displays and monitors transducer generated signals with outputs 0-10V as real world values from -999 to 9999 for indicating voltage, current, temperature, pressure etc. and displaying in real values.

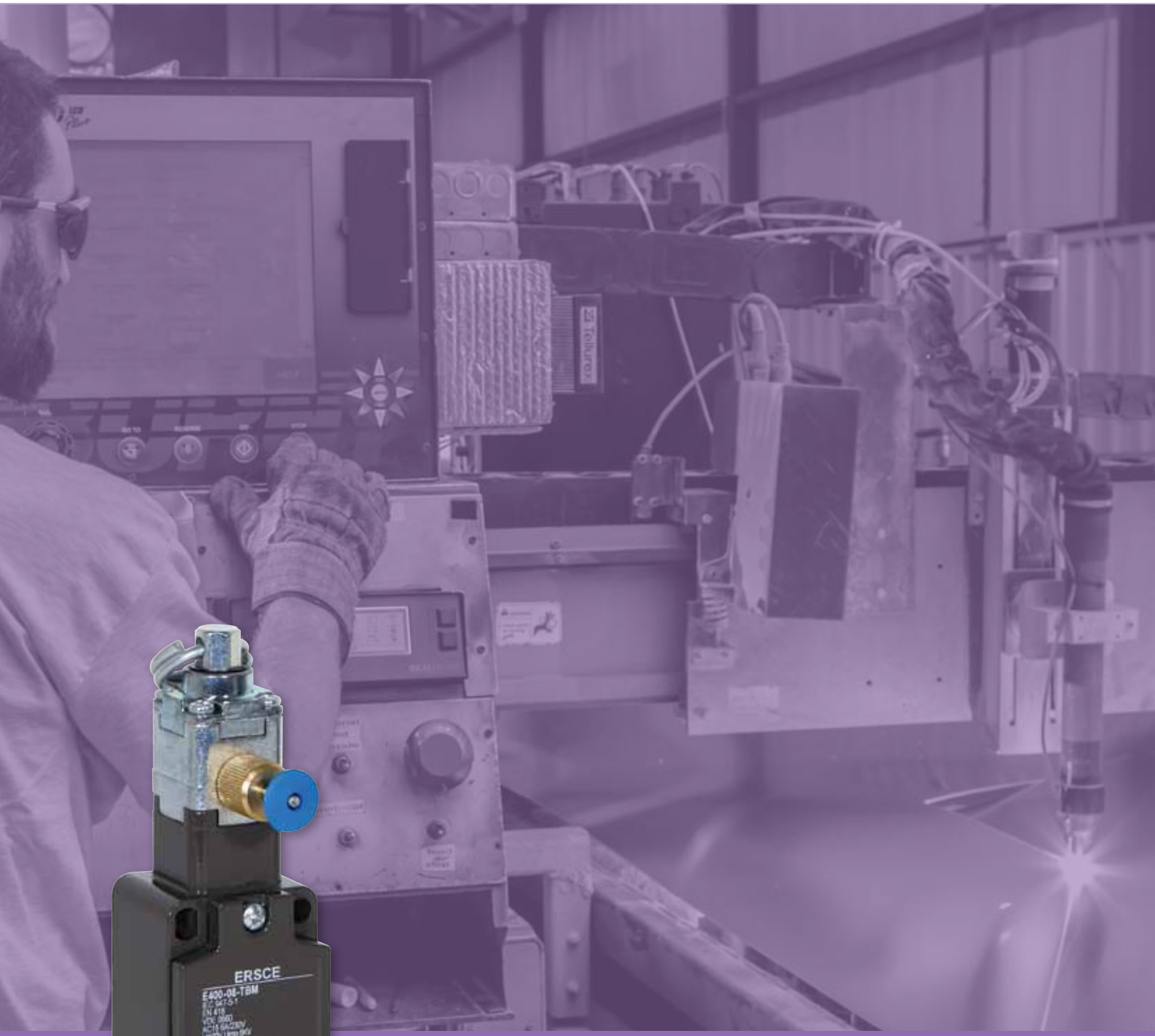
D3SM0-10	0 - 10V signal indicator	–	0 - 10V*	–	0	**835.00**
D3SM0-10-T	0 - 10V signal indicator	with 4-20mA re-transmit	0 - 10V*	yes	0	**1000.00**
D3SM1-10	1 - 10V signal monitor	–	0 - 10V*	–	1	**886.00**
D3SM1-10-T	1 - 10V signal monitor	with 4-20mA re-transmit	0 - 10V*	yes	1	**1050.00**
D3SM2-10	2 - 10V signal monitor	–	0 - 10V*	–	2	**937.00**
D3SM2-10-T	2 - 10V signal monitor	with 4-20mA re-transmit	0 - 10V*	yes	2	**1101.00**

* *Available with a 0-5V or 10K potentiometer input* *0-10V re-transmit available on request*

RPM / pulses per hour

Monitors and displays speed (RPM) relay remains energised while monitored speed is within pre-set parameters.

D3RPM0	RPM indicator	–	2pph - 9999rpm	–	0	**835.00**
D3RPM0-T	RPM indicator	with 4-20mA* re-transmit	2pph - 9999rpm	yes	0	**1000.00**
D3RPM1	RPM monitor	–	2pph - 9999rpm	–	1	**886.00**
D3RPM1-T	RPM monitor	with 4-20mA* re-transmit	2pph - 9999rpm	yes	1	**1050.00**
D3RPM2	RPM monitor	–	2pph - 9999rpm	–	2	**937.00**
D3RPM2-T	RPM monitor	with 4-20mA* re-transmit	2pph - 9999rpm	–	2	**1101.00**



Field switching & sensing